Amateur Radio

Volume 80
Number 10
October 2012
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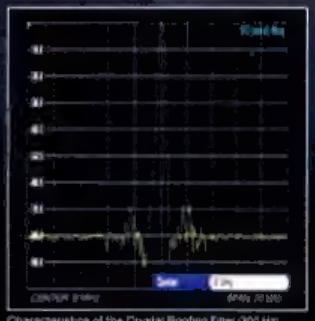

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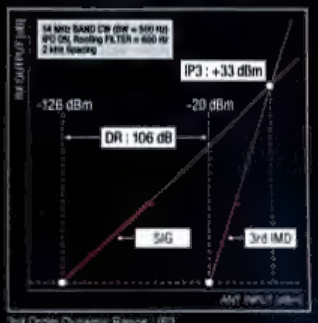

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Amateur Radio

The Journal of the Wireless Institute of Australia

Volume 80
Number 10
October 2012
ISSN 0002-6859

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Production Deadlines
All articles, columns, hamads and advertising booking by **first day of previous month.**

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This month's cover
The sun sets on another successful YJ0VK DXpedition. Photo by Brenton Vowles VK3CBV.

Technical

Columns

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Amateur Radio is a forum for WIA members' amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are welcome and will be considered for publication. Articles attached to email are especially welcome. The WIA cannot be responsible for loss or damage to any material. Information on house style is available from the Editor.

Back issues
Back issues are available directly from the WIA National Office (until stocks are exhausted), at $8.00 each (including postage within Australia) to members.

Photostat copies
If back issues are unavailable, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

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Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Editorial

Peter Freeman VK3PF

Change of seasons underway

Down in Gippsland the weather of late has been extremely changeable, somewhat typical of the onset of spring. The longer days and slight increases in temperature induce faster growth of the grass, which in turn means that one must fire up the mower more often! But the back yard still feels like a wet sponge underfoot, due to the wet winter. It makes for challenging decision making regarding which task to tackle when with regard to home maintenance.

The change in season means that propagation conditions will change. On the VHF and UHF bands, I have already observed some of the locals enjoying enhanced tropospheric conditions under high pressure systems. The fans of the "magic band" are hoping for conditions to improve as the equinox approaches. Lots of amateurs have been chasing the DXpeditions on HF, with plenty of pile ups heard. But it is strange that when the DXpedition packs up and heads for home that suddenly the bands appear to be dead!

Operating by the seaside

In this month's issue, we have a report on this year's YJ0VK DXpedition by an all-VK team. As can be seen in the cover photo, the team was set up close to the beach in what looks to be a very pleasant location.

We also feature several reports from teams that participated in the International Lighthouse Lightship Weekend (ILLW) in August. As one would expect, most of these operations were close to the water as well as close to the lighthouse.

A key feature of the ILLW is the fellowship/camaraderie amongst the members of each team and between the various teams at different lighthouses around the globe. Readers may be interest to note that Australia was the most active country for the ILLW – more ILLW stations were registered in VK than any other country, I am informed: there were 72 lighthouses registered in VK, followed closely by 71 in the US. Participation in the ILLW is steadily increasing, so perhaps you need to start thinking now about your possible involvement in 2013 and start planning by booking a lighthouse early.

2013 Callbook

The team producing the 2013 edition of the *Callbook* are beavering away as this issue of *AR* is being prepared. The plan is to have the *Callbook* available for sale by late October. Purchasing details should soon be available on the WIA website. It is also likely that it will be available for sale at some of the main hamfests scheduled before Christmas.

Callbook Editor Greg VK3VT is busy finalising all the content and the plan is to include all issues of *AR* from 2011 on the *Callbook* CD. The CD is also likely to include the 2013 issue of the NZART Callbook, which usually contains a wealth of additional information.

The data on the number of callsigns issued shows that the amateur population has undergone a small decrease since last year (15153 licences in September 2013 compared to 15270 the previous year).

Continued on page 5

WIA comment

Michael Owen VK3KI

The Foundation licence – Time for a Review?

The first Foundation certificates of proficiency were issued in October 2005, after the Determination of the ACA creating the Foundation licence came into effect.

In May 2004 the ACA had published the "Outcomes of the Review of Amateur Service Regulation." The Outcomes paper referred the Discussion paper that the ACA had published in August 2003 that had led to an extensive consultation process. The Discussion paper had raised the possibility of introducing a new entry-level licensing option in Australia, similar to the Foundation licence in the United Kingdom. The authors of the Outcomes paper concluded that "on balance and after careful consideration of submissions, the ACA has decided to introduce a foundation-style amateur licence, to form part of a three-tier licensing structure."

From time to time different people have suggested changes to the Foundation licensee's privileges and recently the WIA Directors have been discussing the issue.

The Directors would like to know the opinion of amateurs generally on the Foundation licence, and whether there should be any changes. We are inviting submissions from amateurs, groups of amateurs and clubs to assist us.

Should the WIA seek any changes to the Foundation licence?

I would like to identify some of the issues that have been raised and also identify some of the arguments advanced for change and some of the arguments against change.

Probably the most regularly raised question is why cannot the Foundation licensee be permitted to use digital modes? The main argument against the digital mode is that it becomes another subject to be included in the syllabus, thus making the Foundation qualification more difficult and is a move away the simple entry level qualification that can be achieved over a weekend. It is said that the previous Novice qualification had ended up being perceived as being quite difficult, simply because over the years more and more privileges had been given to the Novice, requiring more and more matters to be added to the syllabus.

On the other hand, it is said that the absence of digital mode is quite out of keeping with today's world, that its absence labels the Foundation licence as being old fashioned. In short, it is argued that digital modes would add to the attraction of the Foundation licence.

In September 2007, as the Amateur LCD was being amended to give effect to the "Outcomes", the WIA submitted that Foundation licensees should be permitted to use digital modes, saying:

The WIA does not wish to change the essential character of the Foundation licence as an entry level licence. In particular, we recognise the risk of adding privileges from time to time, thereby increasing the knowledge required, and therefore gradually changing the qualification from an entry level as described above to a higher level licence. We also think it is important to ensure that there are sufficient privileges associated with the higher level licences to provide a meaningful incentive to upgrade.

We see no reason why a Foundation licensee should be restricted from using the particular mode when in reality there is no difference in operating the currently available equipment in a digital mode from equipment using analogue modes.

The ACMA rejected the proposal.

The ACMA said that the entry-level licence is meant to be easy to obtain, the amendment proposed to permit digital voice mode "would require expansion of the current syllabus and add a level of complexity to the qualification."

The ACMA also contended that adding digital voice modes would erode the difference between the Foundation and the other higher levels of licence, and that the digital voice mode would require the transmission of digital data, incompatible with the Foundation licence.

Those in favour of this change argue that the extent of the expansion of the syllabus is greatly exaggerated. They point to the Foundation syllabus and how much of that is devoted to the two modes, AM and FM, and say that the additional training would be minimal.

On the other hand, it is not clear what different people mean by digital mode in this context.

Another issue raised by a number of people is the 10 watt PEP all modes power limit. It is argued that the power limit really restricts the Foundation licensee, particularly when competing against stations using much higher power.

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WIA news

The WIA issues guide to running a WIA Annual Conference

The WIA Board invites clubs, groups of clubs and even groups of individuals to consider conducting the WIA Annual Conference.

The Annual Conference in 2011 was in Darwin and the host club was the Darwin Amateur Radio Club and the Annual Conference this year was in Mildura and the host club was the Sunraysia Radio Group.

The ***Guidelines for Hosting a WIA Annual Conference Weekend*** is based on the experience of those involved in those two conferences, and Spud Murphy (Darwin) and Noel Ferguson (Mildura) have contributed to the "Guidelines".

The Board hopes the pattern set by these two highly successful events can be continued, with different clubs in interesting areas hosting weekends, usually in the latter half of May.

The 2013 Conference will be in Perth, but clubs are urged to think about Conferences after that. The "Guidelines" set out the general procedures for a Conference, some of the issues that should be considered and the approach to actually coordinating and managing a Conference.

The Guidelines can be found at the WIA website *www.wia.org.au*

Applications for 2012 Club Grants received

Ten applications from WIA Affiliated Clubs were received at the WIA National Office in time to meet the deadline on Monday 20 August for applications for grants under the Club Grant Scheme, and one application was received nine days after the deadline.

Following general discussion and discussion at the Open Forum following the Annual General Meeting in Mildura on 26 May 2012 a new and simplified criteria for a grant was adopted for this year.

The WIA Board has announced that the Grant Committee for 2012 will comprise Reg Emmett VK7KK as chair, with Peter Lowe VK3KCD and Bill Main VK4ZD as the other two members.

It is hoped that grants will be announced by Monday 22 October 2012.

Philippines earthquake

Jim Linton VK3PC, Chairman of the IARU Region 3 Disaster Communications Committee, and Eddie Valdez DU1EV, Chief Operating Officer of PARA, report that soon after the strongest earthquake in more than two decades hit, measuring 7.6 on the Richter scale, the Philippines members of the Ham Emergency Radio Operations (HERO) soon after were exchanging messages with the affected coastal areas. Eddie Valdez DU1EV, the Chief Operating Officer of the Philippines Amateur Radio Association, said that DU1VHY handled traffic and received reports from the affected areas of DU4, DU5, DU6, DU8 and DU9. Eddie DU1EV said: *The area of DU5 was nearest the epicentre and DV5PO reported there was a power outage in Borongan, Samar Island. DV5RAY reported that people were evacuating because of the tsunami alert*.

The Philippine Institute of Volcanology and Seismology later lifted its tsunami alert after only small waves were generated and not the life-threatening waves that can be expected to occur with an earthquake of that size. It also caused tsunami warnings in Indonesia, Japan and Papua New Guinea. He said the earthquake was felt over a wide area with numerous reports including shaking chandeliers and triggering alarms in some vehicles. Eddie DU1EV said it was good that many hams in the affected areas showed up on the 2-metre and 40-metre emergency channels and other districts were on standby if needed.

The undersea earthquake struck the central part of the archipelago off the town of Guiuan on Samar Island on Friday. It killed one person in a collapsing house, caused damage to infrastructure and people to flee to higher ground. Tens of thousands of people have since returned home. Eddie DU1UV reports that an initial assessment by the government's National Disaster Risk Reduction Management Council is that there was no major structural damage in the affected areas.

Most of the homes destroyed were made of light materials in the coconut growing low-socioeconomic area. In February this year a 6.8 quake killed 51 and left more than 60 people missing in the Negros and Cebu regions on the Philippines. The latest earthquake followed HERO being activated during the flooding caused by heavy recent seasonal monsoon rains and storms, including most of the capital of Manila being under water during a 48 hour deluge. Authorities have also renewed their warning of further disasters in the Pacific-rim of fire which includes the Philippines, where an earthquake measuring 7.9 killed thousands in the area of Luzon on July 16, 1990.

Typhoon wreaks havoc on Korea

Jim Linton VK3PC, Chairman IARU Region 3 Disaster Communications Committee, and Yong-Surke Lee HL1FB report that as the powerful storm Typhoon Bolaven battered South Korea, radio amateurs joined the response and recovery efforts to minimise the toll and damage. The state disaster management agency reported deaths as the storm, the strongest to hit the country for almost a decade, left nearly 200,000

homes without power, and property damage.

From the Korean Amateur Radio League, Yong-Surke Lee HL1FB said the 2-metre repeater D90IK on a 535 m high mountain with coverage of at least 100 km was used for emergency communication on the day the storm hit. Lee said: *The control station 6K2BUF was in charge as the effort was maintained. Operators were able to contact stations to get the disaster information relayed and report them to the authority. Some areas had power outage so battery operated 2 m radios were used. DS2HBX went up to the repeater site and had a gasoline engine generator ready in case for power outage.*

There were media reports of widespread damage this week in the less prepared North Korea. While South Korea is engaged in a big clean-up, a close watch is being kept should another storm - Typhoon Tembin - which was moving over the Yellow Sea.

Editorial

Continued from page 2

The number of repeater and beacon licences has increased slightly (474 in 2012 compared to 467 in 2011). Most call areas had a small decrease in the number of callsigns, except for VK1, where the numbers grew slightly.

These numbers are interesting when you consider the President's Comment in last month's *AR*. Perhaps we all need to consider how to attract newcomers to our hobby? Our local club is currently finalising arrangements for a Foundation training and assessment weekend in the near future. Hopefully the course will see a small increase in local amateurs and perhaps also a few successful upgrade candidates.

Cheers,
Peter VK3PF

WIA comment

Continued from page 3

The power level for the Foundation licence was an issue during the consultation process leading to the Outcomes. The Outcomes paper said this on the question of power:

In deciding to permit a maximum transmitter power of 10 watts PEP, the ACA has followed the UK model for its foundation licence. Although the majority of submissions suggested that a maximum transmitter power of 100 watts PEP should be permitted, it was considered that the need to limit the occurrence of interference and exposure to EMR, in circumstances where licensees are required to possess little technical knowledge, far outweighed the claimed operational advantages provided by allowing the use of 100 watts PEP. The claim that 100 watts PEP should be permitted on the basis that commercially manufactured 10 watts PEP equipment is not available was not accepted. At least three models are available that are known to meet this specification.

Against this view is put the view that the power of 10 watts PEP is a disincentive and more would seek the Foundation qualification if the power was higher, that even the grey nomads with their land mobiles use 100 watts PEP, and a power of 25, 50 or even 100 watts would be more appropriate for the Foundation licensee.

Another issue that has been raised is the structure of the Foundation callsign, that is, a four letter callsign. It has been said that overseas amateurs are confused. In the UK the Foundation callsign is identified by a different prefix. It is not known whether the international prefixes allocated to Australia, namely AXA-AXZ, VHA-VNZ and VZA-VZZ, have all been used, but is it thought desirable to explore the option of a different prefix? Or, is the VK so recognized as Australia that the present system is preferred?

Is there any other matter that should be reviewed?

Please do bear in mind what the Foundation licence is meant to be, an entry level licence achievable over a weekend, to give those who are interested a taste of amateur radio, and hopefully, to provide incentives to upgrade.

May we have your opinion, with your reasons for your conclusion? Even if you think that there should be no change, it is important that you communicate that view to us.

You can send your submission by mail to the WIA at PO Box 2042, Bayswater, Victoria, 3153, by fax to (03) 9729 7325 or by email to *nationaloffice@wia.org.au*

Participate **Oceania DX Contest** October 6 & 7 - Phone
October 13 & 14 - CW

Vanuatu 2012 – YJ0VK – DXpedition in a box

Chris Chapman VK3QB

Once again the Oceania DX Group and the VK crew headed to Vanuatu as YJ0VK for 14 days from 21 April to 5 May, 2012. Rather than provide an account of operations, we thought it better to tell a slightly different story this time. Many readers may recall that this is the team's third trip to Port Vila, Vanuatu.

By now the team has many elements of a DXpedition well in hand. We like to refer to these DXpeditions as low stress, fun, 'DXpeditions in a box', providing an opportunity for new operators to have a go without the intimidating environment that accompanies many large scale DXpeditions. We aim to keep the fun factor up at both ends of the pileup and keep the logistics and costs within reach of most operators.

Any such venture requires considerable planning, risk management (aka, what could possibly go wrong?), goal setting and expectation setting. Let's begin by explaining how we addressed each of these requirements and then how it affected the outcome.

Photo 1: The YJ0VK team. Lee VK3GK, Brenton VK3CBV, Chris VK3QB, Luke VK3HJ, Mike VK3GHM and Allan VK2CA.

Goal Setting

Our goals can be best described as follows:

- Find a location which is reasonably high on the DX most wanted list – say 100th or better – this ensures plenty of pileups, good fun and learning experiences for the new operators – without being a 'mad house'.
- The location must be easy to get to with normal commercial airlines, pleasant climate and within six hours flying time of the eastern seaboard of VK.
- Obtaining a local licence should be relatively straight-forward.
- The location should have a suitable QTH for establishing an adequate set of radio stations and antennas as well as providing basic quality accommodation.
- Focus on WARC bands.
- Apply the Keep It Simple Stupid (KISS) principle with regards to equipment; reduce costs and logistics associated with freight and the set-up/tear-down effort.

Expectation Setting

- We like to run a fairly relaxed DXpedition. This means that operators can take a break; we don't work to a tight operating schedule.
- We have a team leader but we work as a team.
- If appropriate, we agree about any contest operation that may be scheduled. That is, will our station enter the contest or not? How will those operators not interested in the contest spend this time?
- We operate as a team with a team callsign. No individual callsigns – multiple callsigns have the potential to confuse the pileups and create problems downstream for the QSL Manager.
- Our operation allows for side trips and excursions; whilst in a beautiful part of the world we should see more of it than just the faceplate of a radio.
- We aim to keep costs manageable.
- We welcome donations to help with freight costs, but do not actively chase sponsorship.

Risk Management (what can go wrong – lessons learned)

- Sickness and injury
- Inclement weather
- Broken equipment
- Interference (both ways – created by us and affecting us)
- Unforeseen expenses
- Reduced efficiency/fun due to difficulty in erecting antennas

I will now work through each of the above elements which I hope provides a useful insight into another side of DXpeditioning.

First a quick review of the operation is appropriate to set the scene. Our team consisted of six

VK operators: Chris VK3QB, Luke VK3HJ, Allan VK2CA, Brenton VK3CBV, Lee VK3GK and Mike VK3GHM. Refer to Photo 1.

All operators had been to Vanuatu at least once before. The team has good experience working together and we have learnt many lessons from previous DXpeditions.

To best satisfy our goals the team decided once again to activate Vanuatu as YJ0VK. We had considerable experience with the country, climate, QTH and Vanuatu is still well within the top 100 most wanted countries – especially in Europe with an emphasis on the WARC bands and RTTY. We also had the licence in hand and a well-tested QTH. By choosing Vanuatu we also eliminated many of the risks and potential issues that plague many DXpeditions.

A very quick overview of the statistics is presented in Tables 1 and 2. A total of 17,415 QSOs with almost 34% being on WARC bands and about 19% of all QSOs being RTTY – thanks to Allan VK2CA, our 'RTTY-man'. We achieved our goal of focussing on the WARC bands and RTTY.

Band	CW	PH	RTTY	PSK	FM	Total
160	3	0	0	0	0	3
80	197	9	0	0	0	206
40	996	118	41	0	0	1155
30	734	0	498	0	0	1232
20	1598	1265	421	1	0	3285
17	1747	603	483	0	0	2833
15	1789	1555	647	5	0	3996
12	1298	215	302	0	0	1815
10	969	1050	819	1	50	2889
6	1	0	0	0	0	1
Totals	9332	4815	3211	7	50	17415

Table 1: QSOs by band and mode.

Band	PH	CW	PSK	RTTY	FM	Total
AF	19	29	0	9	0	57
AN	0	0	0	0	0	0
AS	1760	3914	2	1630	38	7344
EU	1409	2363	1	1004	0	4777
NA	1212	2658	1	471	1	4343
OC	387	302	2	87	11	789
SA	28	66	1	10	0	105
Total	4815	9332	7	3211	50	17415

Table 2: QSOs by continent and mode.

Equipment

The following sections provide a synopsis of our equipment and how it helped us achieve our goals.

Radios

As we were running three stations we made the conscious decision to stick with the Kenwood TS-480HX radios. The radios are well suited to DXpeditioning;

all HF bands plus six metres, reasonably compact for a full function 200 watt radio. Maintaining consistency of rigs across the three stations also ensured familiarity for the operators and less likelihood of improper operation leading to QRM or, at worst case, damage to equipment. You will note the lack of amplifiers. Amplifiers are great (mandatory?) for Top Band, but given our QTH and the proximity to salt water the team felt the (considerably) extra hassle with freight, potential interference and licencing requirements did not warrant the potential benefit. 160 metres was full of tropical noise anyway, so a decision was made to spend very little time on that band, and this is evidenced in the results. We believe that the difference between 200 watts and the additional power of an amplifier would not have made a measurable difference to the results. When you are the DX, there is not much point being the strongest signal on the bands anyway.

Antennas

As the QTH was beachfront we opted once again to run verticals and wires. We did not take the beam this year – the rewards of a directive antenna simply did not warrant the extra hassle with freight and set-up; both important considerations with our goals and expectations. Antenna consideration is a key aspect of planning successful DXpeditions; the practicalities of freight and time spent erecting and packing up, both activities which reduce the time spent on-air and add another level of complexity and cost.

Vertical antenna

When a beachfront QTH presents itself a simple vertical antenna is the best and most flexible option. Our team used two antennas configured as follows:

12 metre squid-poles with wire taped from the base to the top. An SGC-230 auto-ATU mounted at

Photo 2: The base of one of the 12 metre squid pole antennas.

the base and a single counterpoise running into the seawater. The base of the antennas were constructed by Ian VK3BUF and made for easy freight and on-site assembly. Refer Photo 2.

These antennas were flawless and operated exceedingly well on *all* HF bands from 80 metres through to 10 metres.

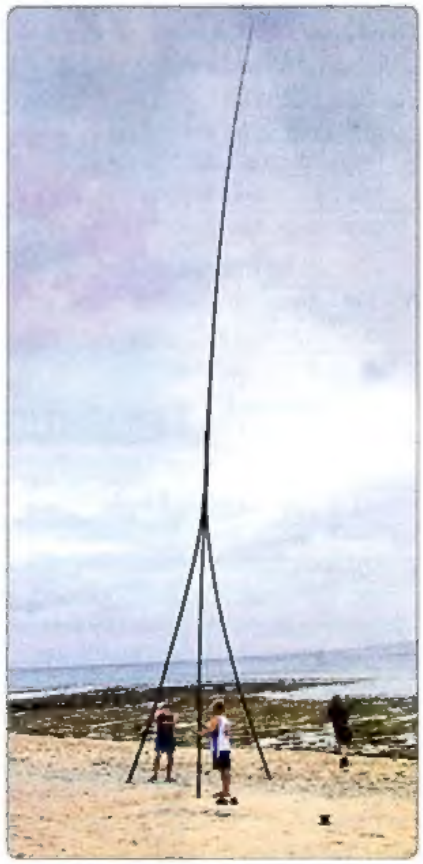


Photo 3: The inverted L in place.

The SGC-230 ATUs worked without fault; they are weatherproof, of solid mechanical construction and eminently efficient given their size and purpose. Furthermore, this model is rated at 200 watts and comfortably handled two weeks of constant use in a demanding salt water environment. Thanks to Dave from TTS Systems for loaning the team one of these units. A smaller operation could easily get by with the SGC-237 100 watt version.

This article would not be complete without a quick description of our inverted L for 80 and 160 metres. We roped together some bamboo poles and attached a 12 metre squid pole to the top. This made the vertical leg about 18 metres high. It was quite a beast to see, and also worked well on 80 metres especially. Refer Photo 3.

Dipole

When two 17 metre high coconut palms about 50 metres apart present themselves it really is a situation crying out for an 80 metre dipole fed with open wire line. And this is what we did. This antenna provided two very useful characteristics; first it was another fantastic multi-band antenna when fed through the MFJ-962 tuner; second, the horizontal polarisation assisted in reducing interference between the stations. In fact, the team were able to run two stations simultaneously on the same band (one SSB and one CW) where one was using the dipole and the other using the vertical.

As many ardent dipole followers will attest, the real problem arises when faced with getting the wires up in the trees. We had the benefit of an ingenious device loaned to us by Brian VK3BSN from NBS Antennas. The 'antenna launcher' - based on an arborist's tool, and used to launch ropes into high trees to assist them in climbing and managing the destruction of said trees. Refer Photo 4. Our thanks to Brian for the loan of this important tool – the team had previously learnt

Photo 4: The antenna launcher – in action.

the benefits of such a device on Lord Howe Island in 2009 and then again in Vanuatu in 2011 – and Brian had adapted the design by breaking the pole into two sections making for far easier transport.

Fritzel FD-4 dipole

Whilst at the Wyong Field Day, Carsten from RF Solutions was kind enough to offer the team the use of the Fritzel FD4 multi-band antenna. Without giving too much away, we were very impressed with this antenna. It resonates nicely on 80, 40, 20, 17, 12 and 10 metres. The construction is extremely robust and once up in the air (about 14 metres high) this antenna proved to be a stable workhorse bringing in many RTTY QSOs. It performed very well and would be an ideal antenna to compliment a small operation. Thanks to Carsten from RF Solutions for donating this antenna.

Band pass filters

Band pass filters were a key component of our risk mitigation strategy as far as multi-station interference was concerned. As all three stations were within 15 metres of one another, we needed all the armoury we could muster to minimise inter-station interference. At first the units appeared to do a fine job, but within two to three days they progressively failed. We are still liaising with the manufacturer of these units, so will reserve any final comments pending their assessment and response. However, the clear lesson here is to ensure BPF are selected carefully and some performance testing is carried out prior to actual usage.

Financing DXpeditions

Much has been written about this topic, and it can be a subject fraught with controversy and debate. Money (or lack of it) plagues most DXpeditions and it is a constant source of concern for the organisers and team members alike. From my experience, most operators are more than prepared to pay for their travel (assuming normal commercial air travel), accommodation and meals;

and this is entirely reasonable. In most cases, all equipment is provided by team members. By choosing locations with regular airline schedules, we minimise the extremely high costs that often plague DXpeditions; especially where a boat charter is required. It is the extra costs that many do not consider, and these costs can add up considerably.

- DXpeditions often have equipment requirements that may not be fulfilled by the average radio amateur. Examples include: band pass filters, high quality long coax runs, antenna launcher, portable antennas, transport boxes for delicate radio equipment, portable laptop computers for log keeping and, of course, generators and fuel for remote operations. Also, some equipment is not worth bringing home – either due to the weight or deterioration due to weather, usage or salt water (for example, antenna wires).
- Freight: Freight equals weight. Weight equals cost, and lots of it. Excess baggage is an area that most airlines use to make massive profits. Here is an example; let's say I weigh 80 kg. The cost for my return airfare to Vanuatu is $750 – including food, alcohol, facilities and pressurisation. By comparison, transporting 80 kg of additional freight is $35 per kg, or in this case $2,800. You can get a 30% discount by paying in advance. From this example you can see that air freight is a significant expense for most DXpeditions. We aim to minimise this expense as follows:
  - minimise personal effects. Each operator was permitted five kg of personal items. Travelling to a country like Vanuatu makes this possible due to the pleasant weather.
  - Careful selection of equipment. Pack just the right gear, no more, no less.
  - Simple antennas tend to mean less weight. Using lower specification coax reduces the weight a lot; and for HF operation the dB loss is not significant. Again, this is about overall reward versus cost. For example, the weight of a 30 metre run of RG213 is just not worth it for HF and 200 watts.
  - Wear as much of your clothing as possible. This means less weight and fewer items to take up precious baggage allocation.
  - Wear clothes with BIG pockets and carry everything possible as carry-on! This is a bit of a trick, and you do need to be careful not to go overboard.
  - Another strategy if you have considerable excess baggage is to use a freight company and send the gear ahead of time. This can be done for about 20% the cost of normal airline prices. Our research suggests the break-even point is about 40 kg for such service.

Photo 5: Inside the Cessna on the way to Mt Yasur.

For a relatively simple DXpedition like YJ0VK 2012, the costs over and above our airfares, accommodation and food were approximately $1,100, being made up of excess freight and miscellaneous equipment.

On top of these costs, and of a more general note, each member will undoubtedly buy additional gear to make the operation more successful. This is a hidden cost, and one that is best regarded as an inherent part of the hobby.

How did we go managing risk?

I'll work through each of the potential risks and how we dealt with them.

1. Sickness and Injury

Touch wood, we've yet to suffer any serious injury. However, as team leader I keep a log of each member's known health issues, medications, insurance details and emergency contacts. We insist that each member has adequate travel insurance. In spite of our (sometimes poor!) judgement, we try to avoid the more risky activities of climbing trees and/or putting ourselves in harm's way. The antenna launcher is a good example of using the right equipment to eliminate the risk associated with climbing trees.

Unfortunately this year the whole team came down with some sort of exotic stomach bug. It was not

pleasant, but thankfully it lasted only 24 hours. This impacted on our QSO rate for about 48 hours as the beasty worked its way through each of the team members. About the best way to minimise such illnesses when abroad is to (obviously!) ensure personal hygiene standards are maintained – keep those alcohol based hand washing dispensers handy and wash hands at every operator change, before and after meals, and so on. Next time we'll ensure we have a ready supply of hand wash by every station and in each room.

2. Broken Equipment

Our only casualties were the band pass filters. These filters were rated at 200 watts, so it was a big disappointment when they progressively failed. This was evidenced either by way of smoke escaping the cabinets or the units going out of band, literally. Upon inspection we found the capacitors had fried and the coils had both increased their spacing (hence the de-tuning) and lost their enamel coating. We can only assume this is the result of poor design; notes have been made and sent to the manufacturer to obtain feedback (and hopefully a refund).

Of course, having our BPFs fail meant we had to deal with increased interference between the stations; a less than ideal situation which we will resolve before the next trip.

3. Interference

Interference is multi-faceted when on a DXpedition, as when operating from home. There is the interference you create, and there is the interference you are subjected to. Both have the very real threat of ruining, or at least reducing your success and operating enjoyment. There is no point spending thousands of dollars and countless hours organising a multi-station DXpedition only to find it is impossible to operate more than one station at a time due to interference.

- You want to minimise interference you receive from spurious equipment in your immediate environment. Our QTH was in a simple resort which had *no* TV sets, a good quality mains power supply and was adequately distanced from neighbours. Sadly, radar interference from Asia was an annoyance occasionally, on 80 and 40 metres in particular.

Photo 6: The group on site at with Mt Yasur in the background.

- You want to avoid atmospheric interference if at all possible. The obvious problem being thunder storm activity in the tropics. Picking the correct time of year is probably your best chance of avoiding such problems. We had one evening where no operation was possible due to local thunder storms.
- You want to minimise interference caused by close proximity of transmitters. We did about all we could. We used band pass filters (which, as described elsewhere, failed). We were careful about band selection, and we reduced power where-ever possible. Also, we did not use amplifiers. The old adage 'use only as much power as is required to make the QSO' holds especially true for a DXpedition.
- You want to minimise interference caused by close proximity of antennas. This is best achieved by physical separation, polarisation and location. We used all the methods available to us. Overall, we were very pleased with the lack of inter-station interference that we achieved as a result of antenna selection, orientation and placement.

Summary

Overall, YJ0VK 2012 was a great success and enjoyed by all. We worked over 17,400 QSOs with about 75% being unique calls. Our team, represented and supported by ODXG Inc., now has an effective 'DXpedition in a box' with equipment, check-lists and methods for organising simple DXpeditions in our region. The group is focussed on providing a collegiate environment and we encourage newcomers. By focussing our efforts on simple, yet enjoyable DXpeditions we have been able to address the basic requirements, whilst minimising costs and reducing risks, both of which are major impediments to DXpeditioning.

Lastly, I mentioned that we wanted to see more than the faceplates of the TS-480 radios. Five team members took an intrepid trip aboard a small six seat Cessna (built in 1969) to the island of Tanna to visit the world's most accessible active volcano, Mt Yasur, about 180 km to the south of Port Vila. See Photos 5, 6 and 7. It was a truly unforgettable experience.

More pictures and statistics etc. can be found on our web page at *http://yj0vk.odxg.org/ and visit http://www.odxg.org/* for more information about ODXG Inc. There are also links to our online logs and QSL instructions. YJ0VK logs were uploaded to LoTW within two weeks of the operation's conclusion.

The YJ0VK team thanks the following for their support in providing or loaning equipment or services.

Brian Smith from NBS Antennas - *http://www.nbsantennas.com.au/*

Carsten Pederson from RF Solutions - *http://www.rfsolutions.com.au/*

Dave and Claureen from TTS Systems - *http://www.ttssystems.com.au/*

The committee and members of ODXG Incorporated - *http://www.odxg.org/*

Allan Meredith from VK Classifieds - *http://www.vkclassifieds.com.au/*

We also thank individual amateurs who made donations to help offset the expenses associated with this DXpedition. If you wish to know more about our operation or want to consider joining our next DXpedition please visit *http://www.odxg.org/*

Photo 7: A spirited Mt Yasur in action – photographed from a responsibly safe distance.

Activation of Port Adelaide Lighthouse Museum (AU0107) - ILLW 2012

Keith Gooley VK5OQ

The Port Adelaide LH, across the river from the station.

After some prodding from Steve VK5AIM, I decided to give it a go this year for my first entry into the International Lighthouse and Lightship Weekend. Steve agreed to join me for just the Saturday. As usual I left it to the last minute and didn't make any arrangements with the Maritime Museum staff. So we rolled up at the lighthouse at about 10 am but found it wasn't practical to set ourselves up right at the lighthouse. Steve knew there was a likely place immediately across the Port River from the light so we drove over the Birkenhead Bridge and found the spot quite close to the water's edge with a most suitable wooden railing to support the antenna.

The Lighthouse was originally located off Semaphore Beach which is now in suburban Adelaide. With the advancing development in the 19th century, the lighthouse became redundant and it was moved to Port Adelaide to be set up as a tourist attraction. It is now under the control of the South Australian Maritime Museum.

The weather on the Saturday was a bit variable with some nice sunny breaks between cloudy conditions and a few light showers. There was a light to moderate breeze but not enough to worry the squid pole antenna. Fortunately the heaviest of the showers was at lunchtime. We threw the obligatory sheet of Field Day plastic over the gear and retreated to the car to have our lunch. While we did so a one legged seagull landed on the bonnet and watched us eat. They certainly know when tucker is around.

The equipment setup consisted of a Kenwood TS-2000 radio powered by a 110 Ah deep-cycle battery and a nine metre squid pole antenna of the VK7YY design. The vertical antenna was complimented by a single 10 metre wire laid on the ground as a counterpoise; plus for good measure, a slide hammer earth stake of the VK3XSW design - see *Amateur Radio* Jan/Feb 2012. A small picnic table and two comfy chairs and we were all set. Our first contact was just before 11 am with VI5CW at the Cape Willoughby Lighthouse on Kangaroo Island, with Lesley VK5LOL on the mike.

We contacted a further 15 lighthouses during the afternoon on 40 and 20 metres. The squid pole works particularly well on the latter band and we were able to have a QSO with F5CAC in north-eastern France. In all, we contacted lighthouses in four other Australian states as well as VK5. We passed the mike between us and each had a contact with each of the stations contacted.

Several interested passers-by stopped to ask what we were doing and we were able to explain about amateur radio and the Lighthouse Weekend in particular. The big advantage of setting up in a populated area means there are more people around who may wish to know what we are about. An additional advantage is the proximity of the Birkenhead Hotel. I'll say no more.

At about 4.30 in the afternoon, we decided to call it a day as the flow of contacts had almost dried up and the south-westerly breeze was becoming decidedly colder. It was a most enjoyable day even if it was not a massive exercise, as field operations go, but a great pleasure. I'll certainly give it a go next year if at all possible.

Portable beams for VHF and UHF

Fred Baker VK2FWB

The decision to retire and travel around Oz in our caravan was easy, but to play amateur radio as well was the icing on the cake.

My operation now is completely portable and consists of the following: Icom IC-706IIG, modified RFDS whips on HF, modified CB whips on 6 and 10, and two small beams for 2 m and 70 cm. Travelling in a large 4WD without a roof rack all antennas and support masts are limited in size to what will fit on the back seat or across the rear cargo deck of our Nissan Patrol 'truck', that is, approximately 1200 -1500 mm.

Many different designs exist for small and large VHF and UHF beams and recognition must be given to Gunter Hock DL6WU who pioneered extensive research into new designs. In Australia David VK3AUU developed a spread sheet program to design large arrays and hundreds have now

Photo 1: The completed 70 cm Yagi, black carry bag, and the disassembled 2 m Yagi.

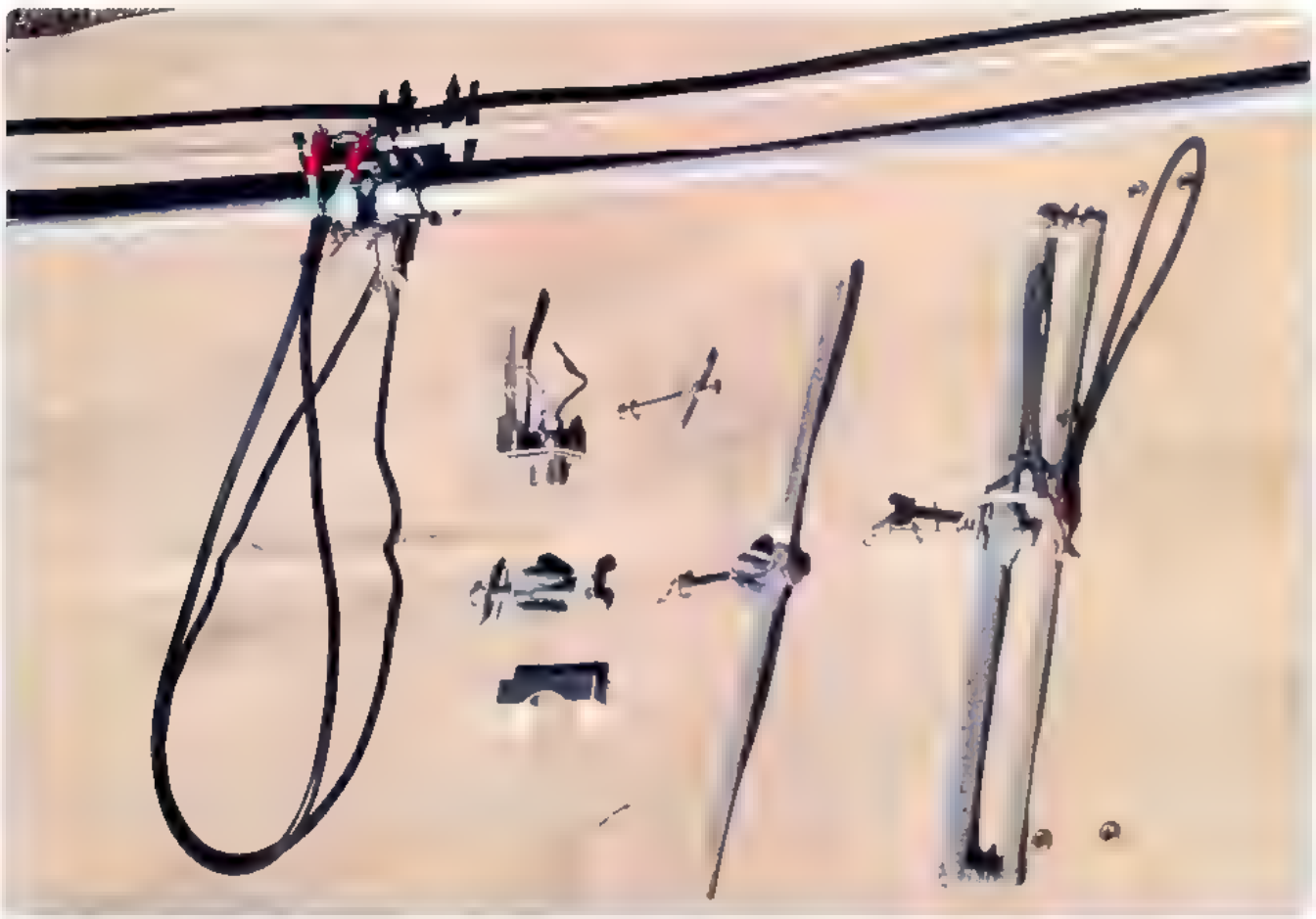


Photo 2: Completed baluns, folded dipoles, mounting spacers, coax socket bracket.

been built to this design *(See Note 1. Ed.)*. This design is targeted at long boom antennas over nine elements and I have used a program by VK5DJ for the 70 cm beam (nine elements) and the ARRL design for the 2 m beam (4 elements). These antennas are designed for the SSB end of the bands, that is for 144.2 and 432.2 MHz, and will be horizontally polarized. Both antennas are narrow bandwidth and many operators use this portion of these bands for weak signal, DX and aircraft enhanced operation.

With the changeover to digital TV many low band TV antennas are now obsolete and a good source of material. However new material and stainless steel hardware is a good investment for the long term. Expected gain on 2 m was 6.8 dBd and on 70 cm 11.1 dBd. Expected beamwidth on 2 m was 71 degrees and on 70 cm, 44 degrees.

The two metre beam

This antenna was built from an old ARRL VHF handbook and consists of four elements on a 25.4 mm (one inch) boom with a folded dipole driven element. The boom can be split in the middle and is supported and sleeved where the second director is fixed to the boom. The four elements and boom can be left assembled and fits in the back seat of the truck. The elements are 10 mm diameter and are mounted on top of the boom on small aluminium spacers or 'chairs'; these spacers were made from 10 mm 'U' aluminium channel and the solid base was filed out to fit the boom. The elements are then fixed to the boom with 5/16 x 2 inch metal threads and wing nuts. Stainless steel metric screws would be better in the long term.

The folded dipole is made from 10 mm tube for the top element and 6 mm tube for the broken (bottom) section, spaced 45 mm apart. This will give a reasonable six to one transformation, matching the 300 ohm folded dipole to 50 ohms into the balun for connection to the 50 ohm coax.

Construction

Mark out the location of all elements on the boom and drill all holes accurately through the boom. A tip! Screw a piece of flat timber to the hole for the reflector first as a flat drilling guide. Next cut all elements approximately two mm longer than required (I use a small plumbers pipe cutter) and then drill a hole through the exact centre for mounting on the boom. Number all elements, and then fix all elements to the boom. At this point you can make sure that all elements are the right length and dead centre, and if not trim with a file. The folded dipole was made with square ends by

making two small clamps to attach to the top and bottom bars.

For the two metre beam dimensions, refer Table 1. For the two metre folded dipole dimensions, refer Table 3, and for the two metre balun refer Table 4.

The 70 cm beam

The 70 cm beam was constructed using the DL6WU design and the computer program by VK5DJ. The elements are six mm diameter and are mounted in the same fashion as the two metre beam. In this case I had a small quantity of spacers from a commercial antenna which were a better fit for the six mm elements, refer Photo 2. The folded dipole is made of 10 mm tube for the top unbroken section and six mm tube for the bottom (broken) section, with a spacing of 25 mm.

Use the same method of construction as for the two metre beam. Note that if the elements are mounted through the boom a correction factor must be added to the length of each element. See computer program for details.

The beam dimensions are detailed in Table 2, and for the folded dipole, in Table 3.

Baluns

The baluns are made from good quality RG58 coax and are half wave at the design frequency of 144.2 and 432.2MHz respectively, multiplied by the velocity factor Vf, for PE 66%, and for foam 79%, approximately. A short tail can be added for connection to the main feedline or coax socket, refer Photo 2. See the handbook for exact velocity factor figures for the coax that you are using and coax balun construction. If you have UHF quality coax available, then all the better.

Beam spacing

General practice is to space the antennas above each other on the mast, at least equal to or greater than half of the boom length of the shortest antenna. I use one metre spacing.

SWR figures of 1.2 and less are achievable with the two metre beam which will result in better than 95% of the available power being radiated. A SWR of 1.1 was achieved with the 70 cm antenna. More time and effort would be spent for base station arrays.

The IC-706 has separate antenna sockets for HF and VHF/UHF, so a good quality coax switch must be used on the VHF/UHF socket to switch antennas. The coax used is RG213 for two metres and Belden 9913 and 9914 for 70 cm. The runs are tidied up by using reusable cable ties (garden ties) from Bunnings or similar suppliers.

The portable mast is assembled from several 1.5 m lengths of large diameter aluminium tubing, some of which came from storm damaged 27 MHz CB base station verticals. The mast is attached to the bull bar on the 4WD by a TV mast standoff and two muffler clamps with wing nuts.

Photo 3: Two metre Yagi elements, mast sections, mounting clamp on bullbar.

Refer Photo 3. On top of this sits a large cardboard compass for accurate (Ha Ha) beam headings - plus or minus 10 degrees should do.

The antennas and mast sections are disassembled and fit into carry bags similar to fishing rod or banner bags, to minimise damage during

	Length (mm)	Spacing (mm)	Incremental (mm)
REF	1041	0	50
DE	978	406	456
D1	952	304	760
D2	946	508	1268

Table 1: The two metre antenna

	Length (mm)	Spacing (mm)	Incremental (mm)
REF	337	0	30
DE	327	139	169
D1	297	52	221
D2	293	125	346
D3	290	149	495
D4	287	173	668
D5	284	194	862
D6	281	208	1070
D7	279	218	1289
Director 8 has been added for those who may have a longer boom available.			
D8	276	229	1518

Table 2: The 70 cm antenna

transport. See Photos 1, 2 and 3. Battery power for the radio comes from the auxiliary 105AH battery in the 4WD and is charged from the alternator while driving and from the van's solar panel when parked. These small antennas are easy to build, transport, assemble and they have achieved good results during portable operation.

The photos show the spacers, the elements and the completed baluns and beams, including the 70 cm beam with elements folded flat ready for transport. I hope this information allows more operators to enjoy another aspect of our great hobby and make more use of the SSB portion of the two metre band. I have had good results from high locations during field days with many contacts over 200 km.

So...go portable, go bush, find a good high spot and enjoy the fresh air. Good DX.

	2 m	70 cm
DE length (a)	978	327
DE dia	10	10
Bottom bar length (b)	476	156
Bottom bar diameter	6	6
Bar spacing (c)	45	25
Ballun gap (d)	26	15
All dimensions in mm		

Table 3: Driven element dimensions

Band	VF 66%	79%
2 m:	686 mm	832 mm.
70 cm	229 mm	274 mm.

Table 4: Balun dimensions

Tips

Read figures three times, measure twice and cut once.

Don't change anything the night before a field day (don't ask me why).

Take spare baluns, screws and wing nuts, as things do break.

References

- DL6WU designs.
- VK3AUU, VK4ZF, VK5DJ notes.
- VHF and field day sites on the internet.
- ARRL VHF, antenna and ARRL handbooks.

Note 1

In response to a query from the Editor regarding a design program by VK4ZF original cited in the draft article, David VK3AUU notes the following with regards to his spread sheet program:

The spread sheet was based on a lookup table, but I am unable to recall which actual source I used. It may have come via VK4ZF and his program, but it was available from a few different sources. The original article by DL6WU contained a very extensive lookup table. I included it with the original spread sheet which was in SuperCalc, which VK3KAI changed over to Excel if I remember rightly.

What I did, by extensive trial and error was to produce a very complicated algorithm which very closely replicated the original lookup table. This is what I used in the spread sheet and later, VK5DJ used the algorithm in his program. I didn't actually use the program by VK4ZF, I just used the lookup table from it.

Photo 4: The 70 cm Yagi folded ready for transport.

80 m or 40 m to 10 m - just one loop fits all!

Ray J. Howes G4OWY

What could possibly be better than one piece of wire that will perform extremely well on all HF bands, is simple to build, can work without an ATU, costs pennies, and totally eliminates the need to have several lengths of wire strung up at your QTH going this way, that way and every way. The answer is a full size loop, sometimes also called a 'skywire' or a 'DX Buster' by those who would not use anything else.

Someone somewhere once described this antenna as one of amateur radio's 'best known secrets'. But even though it probably is, its biggest downside of course is its sheer size. So, if you decide to build one to cover 1.8 m to 10 m, for example, you will need approximately 165.8 metres (544 feet) of wire. That is one big antenna!

However, for the loop antenna to be described here, you will need 43.2 metres of wire (82.9 metres for the larger version) and some coaxial feeder and four insulators.

Before I proceed to the construction details, which is really just measuring out the amount of wire you will require, I should also mention at this juncture that this antenna has to be orientated in the horizontal position for best results. It can also be vertically polarised. But in this instance, you will need to ensure that the actual feed-line from the loop is kept vertical with both of the conductors being tied together. This configuration works against ground and is then connected to an ATU. This variation is a little more complicated and although it works, I much prefer the simpler version! And as the actual enclosed area of this loop is a fundamental requirement of its effective operation - a circle would be ideal, but in practice is obviously impractical, a square shape is the alternative method.

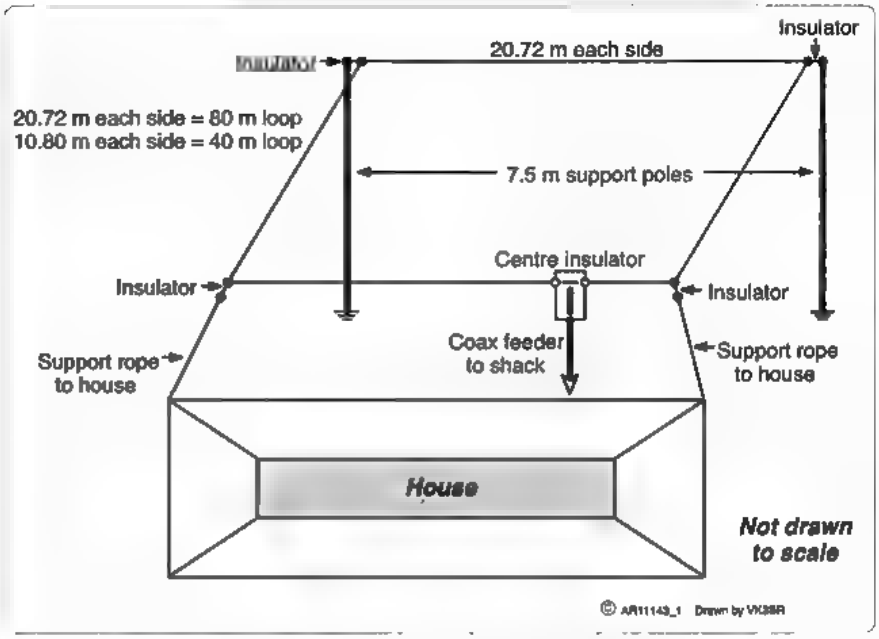


Figure 1: The loop that fits all.

Other shapes are possible if you so wish, but whatever it is, it has to be horizontal in respect to the ground underneath it.

Now, if your QTH is not quite big enough to accommodate the 82.9 metre (272 foot) loop (the 80 m to 10 m version) you could instead build the 40 m version, as I did. In this case, you will need approximately 43.2 metres. (L = 1005 divided by the desired frequency which gives the total length required in feet. I used 7.050 MHz) of wire. If you choose this option, 80 m operation will not be possible. Having said that though, I did get the smaller version to load up on 80 m - trouble was, I could not get the SWR much below 3.1:1. Mind you, if you have a rig which has a tube type final amplifier, it might be persuaded to cooperate? My vintage Yaesu FT-101E did tune-up okay.

But no matter which size you decide upon, both versions are one wavelength in total length at their fundamental working frequency. And by default, will happily perform on all harmonics above your chosen design frequency - be it the 80 m or 40 m version. This will, of course, include the 30 m, 17 m and 12 m bands too!

What I cannot over emphasize is that this antenna be kept in the horizontal position for best performance. The height above ground (if you've chosen to go the vertical route, the height will be of greater importance) will of course affect its overall capabilities as will nearby buildings, etc. So, as with any other antenna, get it as high as your location permits. Although it is not up at the moment, the first loop I constructed was only about 3.5 metres or so above ground level and worked fine. The ideal height however would be between 12 m and 15 m - and higher would be better. But, if like me, you don't happen to have three or four equally spaced 12 metre high wooden monsters conveniently growing in your garden, the highest point on your house might have to suffice instead.

As I mentioned earlier, the actual construction could not be simpler. Measure out your wire - either 82.9 or 43.2 m or thereabouts (10.8 m for the 40 m version, or 20.72 m for the 80 m version, on each side), but don't worry unduly about getting the exact measurement spot on. A millimetre here or there will not really matter. Also, do not bother to run yourself ragged whilst you attempt to bring the loop into a cosy resonance - it probably will not happen. But of course, so far as the SWR is concerned, feed-line length and your operating frequency will determine the final outcomes here. Besides, just let your trusty ATU take the strain instead. Much easier!

For this loop, I used 50 ohm coaxial feed-line - approximately 15.2 metres or so. Simply because I had it to hand and it is so much easier to use and manipulate. I guess you could also try open-wire type feeder instead? But having actually not tried this alternative myself, I preferred the convenient confidence of 50 ohm coax.

Now the feed-line is sorted, all that needs to be done once the wire has been measured, is to hoist it aloft. But before this is done, it's advantageous to attach the feed-point insulator to the antenna first! I just made one out of a piece of plastic skirting-board - and drilled four holes in it. Two to thread the coax through and the other two to tie the two ends of the loop wires. If you wish, you could purchase one of those dipole centres - but for the price of one of those (the last I looked they cost about $30.00) you could build perhaps another three full size loops! Well, if you've got one to hand, you may as well use it. And if doing so, there will not be any need to solder the coax feeder to the two end loop wires. But you will still have to make sure all connections are water-proof, as would be the case going the home-brew route.

The feed-point is not critical. In fact, it could go anywhere you choose. However, it is best to attach it to the nearest point to where your shack is located. And feeding the loop in the corner - again in the corner nearest to your shack is best. The preferred wisdom though, is to feed the loop not right in the corner, but just a foot or so from it. That way, whatever feeder you choose to use should be prevented from getting tangled up in the support ropes. Perhaps I should also mention that before I sealed up my home-brew dipole connector with some water-proof self-amalgamating tape, I made sure that the antenna was performing as it should.

Ideally then, this antenna needs to be as high as you can get it. So with this in mind, at my QTH I tied two ends of the loop to each corner of my house, approximately 10 m, and the remaining two ends (all of them via four dog-bone shaped plastic insulators) to a couple of 7.5 metre fibreglass poles - one of which was placed inside my neighbours garden! I might also add that all four loop sides were in the droopy state - doing so meant that less garden width and length was actually required to fit all four loop sides into the area I had available.

So how does this antenna perform? Well, my first contact was with a station in California who, admittedly, received my signal via a three element Yagi atop a 26 metre tower - so it probably helped a bit! On 10 m, with 10 watts SSB, I received a 5 by 8 report. Other stations were worked on the east coast of the states with similar reports. Also, many of the usual suspects on 20 m were contacted with ease too. It also performed well as a general QSO antenna on 40 m, where I was receiving many complimentary reports although only using low power, typically, between five and 10 watts, on SSB. And don't forget, unlike the aforementioned three element Yagi which has to turn around to bump into the strongest signals, this antenna receives signals on every point of the compass, at all times. Absolutely no turning is needed.

There is no doubt that this antenna does perform. But I should add that, for all those people out there who expect 599 plus a few dB's for every contact, they will probably be disappointed. This is not a miracle type antenna - if such a thing exists.

On the other hand though, this antenna has been up at this QTH for many months and is used on a daily basis whenever I'm in my shack. And I definitely wouldn't swap it for anything else - unless of course, it was another type of loop antenna. Or the same one - but much higher!

Strangely, I don't work many stations that are using this type of loop antenna - whether because of its size or not. However, if you can fit it in at your QTH, I'm sure you won't be disappointed. And if you are one of the lucky amateurs who have a tower and a three element Yagi at the bottom of the garden, this antenna just might make it redundant.

Finally, as an added bonus, loop designs also make great stealth-type antennas. Constructing them using very thin wire will render them almost invisible once aloft. Your neighbours probably won't spot them. Trouble is, the birds won't spot them either! So they tend to fly straight into them with catastrophic results. Your new antenna is down on the ground rather than up in the air. But if your neighbours object to 'ugly antennas' rampaging all over your property, a full size loop constructed with very thin wire might be the vital difference between operating or not. And even if it's brought down by a bird-strike or two, it can be quickly mended. So give it go. The DX is forming an orderly queue for your CQs!

East Gippsland Radio Group VK3EG participates in the ILLW 2012 at Point Hicks AU0027

Rob Ashlin VK3EK

The East Gippsland Radio Group VK3EG, headed by Rob Ashlin VK3EK, the Club's President, went to Point Hicks Lighthouse from 17 - 19 August, 2012 for the International Lighthouse Lightship Weekend (ILLW), an amateur radio event which is held annually on the third full weekend in August. EGRG has been participating in this worldwide event from Point Hicks Lighthouse since 2005 and every year thereon. This year's ILLW 2012 had approximately 471 entrants operating in different lighthouses or lightships all over the world.

Photo 1: East Gippsland Radio Group participates in this year's ILLW 2012 at Point Hicks Lighthouse. From left to right: Ron VK3HAK, Ian VK3TCX, Pete VK3NPI, Claire Pomeroy, Col VK3BLE, John Henry Lowe, Bernardita Ashlin and Rob VK3EK.

Photo 2: Point Hicks Lighthouse AU0027. Photo courtesy of Rob Ashlin VK3EK.

Photo 3: Ian VK3TCX, Ron VK3HAK and Col VK3BLE in full swing as they operate amateur radio at Point Hicks Lighthouse in participation of the ILLW 2012.

Photo 4: East Gippsland Radio Group members Pete VK3NPI, Col VK3BLE, John Henry Lowe and Rob VK3EK assembling the antenna for operating amateur radio at Point Hicks Lighthouse for the ILLW 2012.

Six members of EGRG booked accommodation in the old assistant lighthouse keepers cottage from Friday to Sunday where they made contact with other radio operators participating in various lighthouse locations. Point Hicks, which is the first sighting of Australia by Lt. Zachary Hicks aboard Captain Cook's *Endeavour* in 1770, lies within the Croajingolong National Park, in east Gippsland and is located on the coast of Bass Strait south of Cann River. On this special event, the radio group takes the opportunity of promoting Point Hicks Lighthouse and east Gippsland to people all over the world.

Over to you

Three Pin Plugs (& Sockets)

Dear Steve,

Regarding your "Over to you" item about three pin plugs, published in the June issue of Amateur Radio:

Here are some images of the three pin plug and socket. They were both attached to an old extension lead recovered from my father's home of 50 years in Colac. I suspect it is the "original" lead as purchased many years ago. You will note that the socket is labelled "Lock Tite Socket" and the three pin plug has the scallops on all three pins. The socket receptacles clearly have a pressed indent in them, which I suspect forms the advertised "Locking Socket".

Yours faithfully,

Tom Halloran VK3TJH

Close up view of one of the socket receptacles showing the pressed indent on either side.

A view of the socket connector from the cable side.

A view of the plug end of the extension cable.

Plan ahead

24 - 25 November
Spring VHF/UHF Field Day

January 2013
Ross Hull Memorial VHF Contest

ILLW 2012, Cape Willoughby, Kangaroo Island – AU0095

Paul Simmonds VK5PAS

Another lighthouse weekend has unfortunately come and gone. This year, 2012, was the 16th anniversary of the International Lighthouse and Lightship Weekend (ILLW), and coincided with the 160th anniversary of South Australia's oldest lighthouse, situated at Cape Willoughby on the easternmost point of Kangaroo Island.

A team of seven operators from the Adelaide Hills Amateur Radio Society ventured to Kangaroo Island, Australia's third largest island, and operated from remote Cape Willoughby, using the special call sign of VI5CW from the afternoon of Friday 17th August through until the morning of Monday 20th August.

The group consisted of Paul VK5PAS, Sasi VK5SN, Mark VK5VW, David VK5KC, Hans VK5YX and his wife Lesley VK5LOL, and Trevor VK5ATW. Not to omit the other important members, our XYLs, Marija, Ash, Michelle and Joy, who kept us fed and watered.

Early on the Friday eight of us journeyed to Cape Jervis on the Fleurieu Peninsula, about 108 km south of Adelaide, to board the 8.30 am ferry. Three of the group were smart enough to catch the later ferry at midday. Enroute to Cape Jervis we encountered some blustery weather, including hail which was not a good omen for things to come.

Photo 1: The happy crew at the steps of the Cape Willoughby Lighthouse.

The 45 minute journey aboard the SeaLink ferry, across the 11 km stretch of water called Backstairs Passage, made for some interesting times. The weather was particularly inclement that day and the trip quite rough. Fortunately though only one case of sea sickness resulted.

Our adventures didn't finish there. After arriving on the Island at Penneshaw, the 30 km dirt stretch of Willoughby Road to the lighthouse was quite challenging at times with mud, large sheets of water, and big pot holes. Fortunately no one became bogged and the view along the shrub lined dirt road to the lighthouse was spectacular.

Upon our arrival at the Cape Willoughby lighthouse, we were informed that Cape Willoughby had experienced 55 knot winds (100 kmh) that morning, making it the windiest place on record in Australia. This made the erection of antennas quite a challenge. David VK5KC and Trevor VK5ATW made the 102 step journey to the balcony of the lighthouse and secured some ropes to the railing, some 22 metres from the ground. From here we were

Photo 2: A view of the lighthouse – careful examination will reveal one of the HF antennas.

able to erect a dipole antenna.

Our accommodation was the 'Thomas' and 'Seymour' cottages located at the lighthouse. These are the old lighthouse keeper cottages constructed in 1927, which have been beautifully refurbished, are self-contained and offer five bedrooms. They provided very comfortable accommodation for our three night stay.

During the blustery Friday, we established four operating stations at the lighthouse in what could only be described as trying conditions.

The first operating position was located in the old weather station, about 15 metres from the lighthouse. This consisted of a Yaesu FT-450, 100 watts, and a broadband folded dipole which was attached to the railing of the lighthouse in a sloper configuration. This was our main operating position. The refreshing voice of Lesley VK5LOL was often heard from here. Mark VK5VW and I also operated regularly from here, as did others from our group. Operating conditions were quite difficult at times, as this small room constructed of granite and sandstone did not offer great acoustics.

The second operating position was located in the back porch of the 'Thomas' cottage. This was the domain of Sasi VK5SN, who was active on PSK31 on 20 and 40 metres. Using a Yaesu FT-857D, and a vertical and an OCF dipole, he made about 30 PSK31 contacts to a variety of countries, including Australia, USA, Poland, France, Papua New Guinea, Reunion Island, Turkey, and Russia.

The third operating position was located in the back porch of the 'Seymour' cottage. David VK5KC and Trevor VK5ATW were highly sought after on two metres from stations on the South Australian mainland. A total of 60 stations were worked on SSB and FM on both two metres and 70 cm.

The fourth operating position was in the 'Seymour' cottage. Hans, VK5YX, used an Icom IC-7000 and a multiband HF whip on his 4WD parked out the front of the cottage, and made a number of contacts on 80, 40 and 20 metres.

With the performance of the broadband folded dipole being quite poor on 20 metres, on the Sunday afternoon we erected a 20 metre dipole and this made a considerable difference to our success on 20 metres. An extremely large 'pile up' resulted into Europe.

Photo 3: The team assembled at the operating position.

During the three days we were active on 20, 40 and 80 metres on HF, and also on two metres and 70 cm. A total of 511 QSO's were made around Australia and overseas. A total of 30 different countries were worked on 20 m and 40 m, including Asiatic Russia, Australia, Austria, Belgium, Croatia, Czech Republic, Denmark, England, Estonia, European Russia, Federal Republic of Germany, Finland, France, French Polynesia, Indonesia, Italy, Japan, Netherlands, New Zealand, Papua New Guinea, Poland, Puerto Rico, Reunion Island, Scotland, Slovenia, Sweden, Turkey, Ukraine, United States of America, and Wales.

A total of about 39 different lighthouses around the Australian coast were worked in all states except for the Northern Territory. Five different overseas lighthouses were worked. These being the Punta Gorda lighthouse, California, USA (40 m SSB); the Punta Higuero lighthouse in Puerto Rico (20 m PSK31); the Los Morillos lighthouse in Puerto Rico (20 m SSB); Castle Point lighthouse, New Zealand (20 m SSB and 80 m SSB); and Bean Rock lighthouse, New Zealand (20 m SSB).

Some of the highlights of the weekend were speaking to a number of pedestrian mobile stations in the United Kingdom, an on air interview with Ashley Walsh from ABC 891 Radio, and a special tour of the Cape Willoughby lighthouse.

Unfortunately due to the weather and road conditions out to the lighthouse, visitor numbers were limited. However we were lucky to be visited by Wren Lashmar who previously worked at the lighthouse for a total of 15 years, and a lady whose husband was a SK amateur operator. They found our operation and our small display which we had erected on the hobby of amateur radio interesting.

The weekend was a terrific success and most enjoyable, and all of us are looking forward to next year, and another possible trip to Kangaroo Island.

Special thanks must be accorded to the Department of Environment Water and Natural Resources staff at the Cape Willoughby lighthouse, including Adele and Quentin. They made us feel particularly welcome and showed a keen interest in our operation. Also our thanks go to the Department of Transport Energy and Infrastructure, who kindly allowed us to attach antennas to the railing of the lighthouse.

More information on our trip can be found at *http://simmopa.wix.com/capewilloughby* and on our QRZ.com page. Best 73 and thanks to all those who gave us a call.

JOTA-JOTI 2012

Bob Bristow VK6POP - JOTA-JOTI Coordinator, Scouts Australia

Figure 1: The JOTA-JOTI 2012 badge.

Jamboree On The Air (JOTA) and Jamboree On The Internet (JOTI) 2012 will be conducted over the weekend of 19-20-21 October.

The JOTA JOTI theme, which is 'How Big Is Your World' links us to the United Nations International Year of Cooperatives. Young people will be encouraged to explore how small actions at a local level could have a huge impact at the global level.

Amateur operators have always played a pivotal role in enabling JOTA to be successful.

JOTA and JOTI are Scout-Guide events, and the responsibility for organising and conducting the activity rests with their leaders. The important role played by amateurs is to provide the amateur radio resources and operators to make the activity possible. Consultation between Scout/Guide leaders and amateurs is essential to make sure the activity is the best possible for the young folk.

Scout and Guide Leaders are expected to provide a programme of activities that will stimulate interest in the theme and discussion of same. Amateur radio and the Internet are the media through which this occurs. The spin-off for us as amateurs is that we get to show off our hobby, and we hope to stimulate young interest in the hobby.

The Scout Calling Frequencies are listed below, in MHz. To avoid congestion, please QSY away from these when contact is established.

World CW calling frequencies: (Updated from 1 July 2007)
3.570, 7.030, 14.060, 18.080, 21.140, 24.910, 28.180, 50.160

World voice calling frequencies: (Updated from 1 July 2007)
3.690 and 3.940, 7.090 and 7.190, 14.290, 18.140, 21.360, 24.960, 28.390, 50.160

Australian voice calling frequencies:
3.650, 7.090, 14.190, 21.190, 28.590, 52.160

Calling frequencies for Slow Scan TV (SSTV):
3.630, 7.033, 14.227

Calling Frequencies for PSK31:
14.070

Other helpful information for amateurs and Scout/Guide Leaders, including programme ideas, can be found on the JOTA-JOTI website at *international.scouts.com.au*

Each state and territory has their own rules on Working With Children, and Scouts and Guides have worked with the relevant authorities to formulate policies. Please do check with the Scout and Guide leaders what is required. Usually for a casual activity like JOTA-JOTI we don't need to do anything except turn up.

On behalf of all Scouts and Guides, I wish to thank you all for helping them talk with their brothers and sisters around the world.

Photo 1 : JOTA-JOTI activities can and are many and varied. For instance, tracking a satellite.

International Lighthouse & Lightship Weekend in VK7 2012

Compiled by Justin Giles-Clark VK7TW - vk7tw@wia.org.au

Photo 1: Eddystone Lighthouse montage. Photo courtesy Kevin VK7HKN.

Eddystone Lighthouse – AU0087

Kevin VK7HKN, XYL Lyn, Peter VK7KPC, Alan VK7AN and Geoff VK7GW headed to Eddystone Point on the north east corner of VK7. It is a long way from civilisation, no phone coverage and no Internet – idyllic. Hi! Kevin set up the 9 metre squid pole and the first contact was made with Point Lonsdale. Peter, Alan and Geoff arrived not long after and contacts started to flow and signal strengths were excellent. We worked around 60 stations including ZL lighthouses and can't wait for next year! 73. Kevin VK7HKN.

Currie Lighthouse, King Island – AU0016

Tony VK3VTH/7 and Dale VK7YR activated Currie Lighthouse, on King Island in Bass Strait. Over 160 VK and DX stations were contacted with notable contacts with Lighthouse Supply Vessel 'MV Don' in Sydney Harbour, to Tasman Island and VI5CW at Cape Willoughby, Kangaroo Island in VK5. Equipment used was an inverted V multiband antenna and Elecraft K3 transceiver. Thanks to Sue, Richard and Michael from the King Island Historical Society, Mark from the KI Council and Ondrea from King

Photo 2: Currie Lighthouse on King Island, in Bass Strait. Photo courtesy of Tony VK3VTH/7.

Island Rambles. Without their assistance and support the activation would not take place. 73. Tony VK3VTH/7.

Iron Pot Lighthouse – AU0108

Andrew VK7AW and Phil VK7SS activated the Iron Pot Lighthouse at the mouth of the Derwent River. Andrew and Phil sailed Andrew's yacht 'Reflections' to the Iron Pot and anchored 100 metres or so from the island. Phil and Andrew went ashore in the rubber ducky with a couple of backpacks of radio equipment along with a car battery, table and chair. A temporary antenna was prepared but there was already a wire stretching from the top of the light tower to the ground, and it was found to make a satisfactory HF antenna - rather like a backstay! Andrew and Phil operated for three hours mainly on 40 metres and made many contacts. Andrew's great-great-grandfather, Captain Henry Boon, spent 13 years as Head Keeper of the Derwent Light ('Iron Pot') up to 1913. Captain Henry was also a keeper at Eddystone Point and on Goose Island. 73. Andrew VK7AW.

Cape Bruny Lighthouse – AU0005

Roger VK7ARN and Garry VK7JGD activated Cape Bruny using the WICEN (South) callsign VK7WCN. Access restrictions meant a short operating time, however this resulted in contacts being made with 21 lighthouses in VKs 2, 3, 4, 5 and 6 and one in ZL. Two vehicle based stations were used on 20 and 40 metres. Equipment used included an IC-706 with AH4 tuner into a 12 metre squid pole and a Yaesu FT897-D and MFJ -971 portable ATU with a longwire. 73. Roger VK7ARN.

Photo 3: Phil VK7SS operating next to the Iron Pot Lighthouse. Photo courtesy of Andrew VK7AW.

Photo 4: Cape Bruny Lighthouse and vehicle stations. Photo courtesy of Roger VK7ARN.

Low Head Lighthouse – AU0048

The Lighthouse at Low Head on the mouth of the Tamar River was activated by Albert VK7LH, Gavin VK7VTX, Ross VK7FAAB and Ray VK7VKV. This year a portable tri-band spider beam was erected on a wind up tower with a rotator thanks to Ross VK7FAAB. A multi band dipole was also used. The station ran 100 watts using an FT-950 and a TS-2000. 20 metres proved to be the most fruitful band with contacts made with the US, VK and ZL lighthouses. This lighthouse also houses a very unique DIAPHONE foghorn and a recording of this was used at the beginning of CQ calls which proved popular. A successful weekend with a promise to do it all again, bigger and better, next year. 73. Ray VK7VKV.

Mersey Bluff Lighthouse – AU0040

Mersey Bluff lighthouse was activated by Dick VK7FORF, Keith VK7KW and Marlene. Dick erected his G5RV and Keith his squid pole. Contacts were made with Queensland, Victoria, New South Wales, South Australia and some Tasmanian stations. As it was such a beautiful day, quite a few casual visitors called in to see what we were doing and all seemed interested. 73. David VK7EX.

Table Cape Lighthouse – AU0039

The Table Cape Lighthouse was activated by Eric VK7NFI, Dick VK7DIK and Wayne VK7NET. Dick and Wayne set up Friday morning in bleak cold weather and got the CCARC club station callsign VK7NW on the air for the weekend. Dick VK7DIK helped out throughout the weekend and decided to stay an extra night, leaving early Monday morning. Many contacts were made with lighthouses across VK and ZL. 73. David VK7EX.

Tasman Island Lighthouse – AU0101

Mike VK7FB and Anne VK7BYL activated the Tasman Island lighthouse with the generosity of FoTI (Friends of Tasman Island). FoTI voluntarily attend to the repair and maintenance of the buildings on the island twice yearly. Everything has to be transported via helicopter from mainland Tasmania. After a false start due to weather on Saturday 18th August, the group flew out on Sunday 19th. Once landed it was straight into rigging one end of the half wave dipole on 80 to the rail of the lighthouse which was fortunately opened by an AMSA representative.

Photo 5: Mike VK7FB and Anne VK7BYL surveying Tasman Island after a 42 year absence. Photo courtesy of Erica Shankley.

Equipment used was an IC-7000, 80 metre half dipole for HF and a TV ribbon J Pole for two metres. 92 stations were contacted including American and Spanish stations on 20 metres, 17 Australian lights and two New Zealand lights. A huge thanks to FoTI for providing the means to activate Tasman Island for the first time since 1969 when Anne and Mike were light keepers on the island. Anne commented it was strange to step back on the island after 42 years and it was particularly good to see the regrowth of vegetation but also sad to see buildings fallen down. We saw several eagles, both sea eagles and wedge-tails and the Tasman Island Rail (no, not a train!) was heard. 73. Mike VK7FB and Anne VK7BYL.

Silent Key

Dr David Rodda ex VK3DNG

I first met my friend David Rodda just after WW2 at a 'League of Youth' meeting. This is an outline of his story as I remember it.

David was educated as a border at Ivanhoe Grammar. He then joined AWA until enlisting in the AIF at a slightly too young age. He was sent to Singapore and was captured by the Japanese before he had even learned to dismantle his rifle. He had fired one shot in his cabin on the ship going over there.

He spent some time in Changi Prison before being sent to Thailand. He spent some time on the Burma Railway and then in a coal mine in Japan. His POW days had a devastating effect on his physical condition and his eyes and back became a concern in his latter days. When I met him he was considering a medical course at the Mildura Annex of University of Melbourne, set up to cope with the education of discharged servicemen. He had been away from study for the war years so was a little uncertain. I urged him to go for it, which he did with flying colours. After some time in general practice, he went as a medical missionary with the church Missionary Society to Tanganyika (now Tanzania) where he met and married a nurse, Gwen Slade. After Africa, they set up a happy and hospitable home in Kew where they raised a family. David then took up Psychiatry followed by Geriatrics.

After retirement, David told me he had been into 'shortwave radio listening'. I suggested he would derive more fun from amateur radio. His response was: 'Well, I will if you will' And so we did, about twenty two years ago. We joined the 'Early Bird Net' which still functions with four of our early members.

David was very disappointed when he had to dismantle his steel mast in Kew then shift to a place where he could not establish a radio QTH.

After recent years greatly troubled with back and eye problems, David and Gwen moved into a nursing home where they were for only three weeks before David died due to pneumonia, on 26th July, 2012 just short of his 89th birthday. He had the peace of knowing that he would be with the Lord Jesus Christ whom he had accepted just after the war and whom he had served ever since.

Contributed by John Moody VK3VJM.

Usability and complexity

Peter Parker VK3YE

Is there such a thing as 'too simple'?

Renewed experimentation with simple transmitters and receivers has provoked some thought on the relationship between a project's complexity and its usability. At one extreme we have the very basic 'minimalist' type gear. The crudest example may be a one transistor CW transceiver, where the sole active device forms a crystal oscillator on transmit and a regenerative detector on receive. At the other end we have an all-singing all dancing multiband transceiver that is a joy to use but too complex for most people to build.

Most transmitter and receiver projects are somewhere between these extremes: simple enough to be buildable but with sufficient parts to be usable.

Figure 1 shows the relationship between complexity and parts count in radio equipment.

Our one transistor wonder is at the unusable end of the curve. Its transmitted signal will be weak and the receiver will only hear the strongest signals. It proves the point that a transceiver does not need many parts. It is great for shack demonstrations. However in the 'real world' it will not get too many spontaneous contacts, handsomely earning the title 'unusable'.

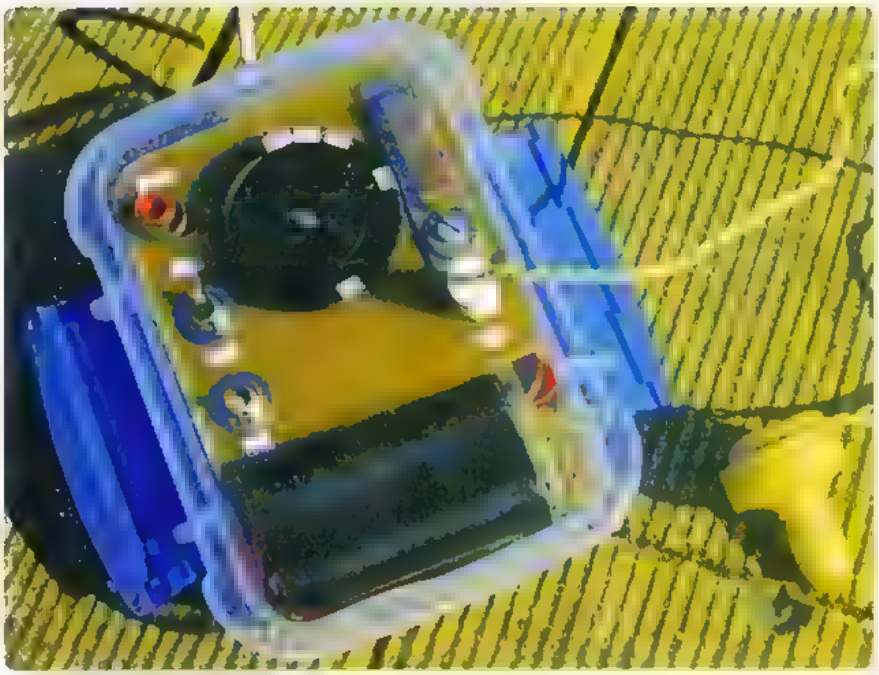
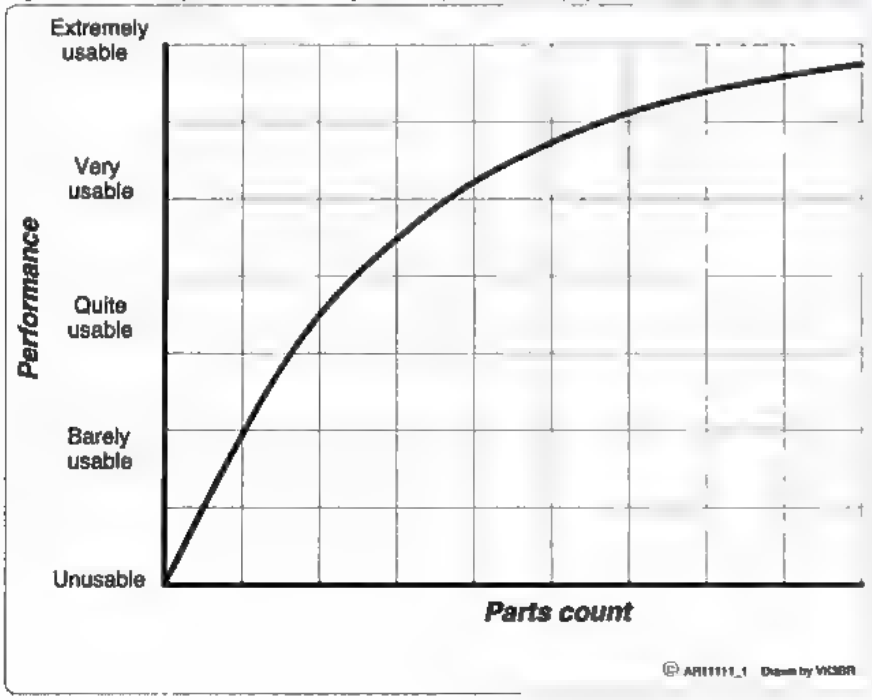


Photo 1: A minimalist QRP transceiver - too simple?

Figure 1: Usability versus flexibility for simple radio equipment.



If we add a few more parts usability rapidly increases. For example an extra transistor could increase transmit power (from a few milliwatts to around a watt) or amplify the weak sound in the headphones so more stations can be copied.

These enhancements might cost ten dollars in parts and the usability gains are huge. Operating will still be clumsy and there will be many fruitless calls, but many more contacts will be made and some will be readability five. Hence the improvement far outstrips the small number of parts added. Unless you have a particular reason to stick with a single transistor station, perhaps for the novelty value, additions like these are highly recommended.

Still, a barely usable rig will spend most time on the shelf and except for testing purposes you will still be reaching for other gear. A rig might be light enough to take portable but is still dead weight if it is not good enough to reliably provide contacts.

Therefore one makes more improvements. For instance frequency agility, which will need a buffer stage for stability, separate keying and an output filter. And maybe a bit more RF output power and even voice as well as CW operation. If a direct conversion set, you will want audio filtering to improve selectivity and probably a better front-end to reduce hum and overload.

Each requires a transistor or two to implement. The usability gains are large and at least justify the additional parts count. The quantity and quality of contacts continues to rise. If you go portable and try hard enough you will likely get contacts. Although quite usable, it will still be rougher than a commercial rig since many features such as single-signal reception, speech processing, automatic gain control, metering, transmit/receive frequency offsets, sidetone and break-in are missing.

Further up the line is the step that many QRP constructors do not bother with, though some of the better kits do. The curve flattens as the point of diminishing returns passes. Here you need to add many more parts for a smaller increase in RF performance.

Still, especially for the contest or DX operator, 'big rig' features are still prized. There is also satisfaction with operating a home built rig with a crush-proof front-end, quality AF filtering and smooth transmit/receive switching that builders of simpler designs miss.

I should add that the graph is most applicable to casual HF operating; for more exacting applications such as VHF DX and moonbounce small increases in performance are worth striving for and the right end of the curve is less flat.

What have we learnt? The trade-off between usability and complexity is an individual choice. However it's unlikely to be found at the extremes of the curve. Instead most 'bang for the buck' is likely to be found near the middle, where adding parts still delivers large usability gains and performance is sufficient for the project to be usable.

Reference

VK3YE website: www.alphalink.com.au/~parkerp

Amateurs supporting the community

Steven Heimann VK2BOS

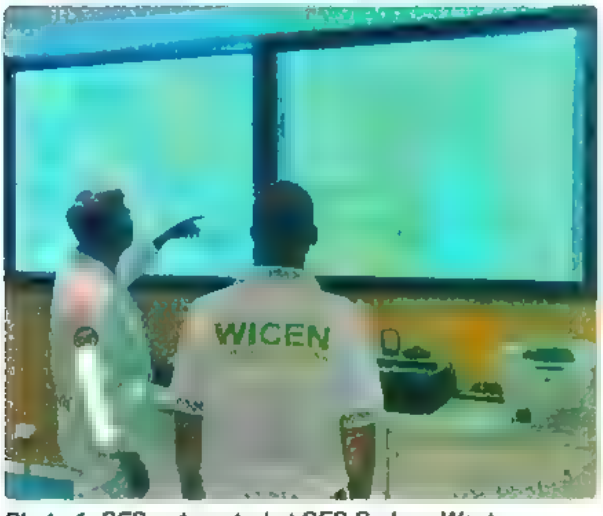


Photo 1: SES net control at SES Sydney West headquarters.

From the Hawkesbury Canoe Classic (HCC) web site: *'The Hawkesbury Canoe Classic is a fun paddle with a serious purpose. Each year around 600 paddlers paddle 111 km overnight in the moonlight, down the Hawkesbury River from Windsor to Brooklyn, to raise money for charity.'*

The HCC Association puts on this event each year to raise funds for the Arrow Bone Marrow Transplant Foundation which is a small charitable foundation that raises money for leukaemia research and provides support to people undergoing leukaemia treatment. In this year's event, the 35th year, there were over 500 paddlers, over 350 canoes, and over $200,000 was raised. An event of this size is a major logistic undertaking requiring support from many volunteers and different agencies.

For quite a few years WICEN NSW has provided communications support for the HCC. Much of the river has no mobile phone coverage and the enclosed valleys provide an interesting RF challenge with propagation characteristics that can vary substantially through the course of the event. WICEN treats this event as training for our operators.

WICEN planning started more than six months before the event with meetings with HCC management and other organisations. WICEN had around 40 volunteers working the event this year with operators at Start, Finish, Net Control, the sweep boat (call sign Closedown), 12 of the 16 Checkpoints (CP), and the Race Safety Officers boat. The remaining CPs are only on boats and are manned by Marine Rescue or SES. WICEN also had a few

people on standby to attend to any network failures or other problems. Fortunately everything worked as planned this year. There were also a few other amateurs directly involved in other roles and a few paddling.

This year the event started at 4 pm on Saturday, 22 October and the last boat finished around 11.30 am on the Sunday. Each CP is generally staffed to provide people to monitor and record the passage of canoes, people to provide communications (mostly WICEN), and a chase boat for SAR. All stations need to be in place by 3 pm on Saturday for a net check. CPs are progressively closed down once all canoes have been accounted for at the next downstream checkpoint. This makes for a long tiring night for those at the later checkpoints, Net Control, and Closedown.

WICEN works in conjunction with the SES, Marine Rescue, private support vessels, the Police, and HCC management to provide a system of networks to allow paddler safety messages and event management messages to be passed quickly and accurately. This event provides a good example of amateurs working cooperatively with emergency services organisations.

This year WICEN network coverage was provided through:

- Permanent UHF repeaters at Kurrajong and Berowra.
- A permanent VHF repeater at Berowra.
- A temporary UHF repeater at Wisemans Ferry.
- A temporary cross band repeater at a second site in Kurrajong, as backup.
- A temporary cross band repeater at Regents Park to provide a backup path into the main net for Net Control.
- Digipeaters at Kurrajong, Wisemans Ferry and Berowra operating on 145.200 MHz.
- An APRS iGate at Blaxland.
- A temporary UHF repeater at Picton with EchoLink to test the feasibility of using this technology for this type of event.

All the voice repeaters were linked. APRS trackers were used to monitor the location of certain key assets. In addition to the above infrastructure WICEN members set up direct links between their own checkpoint and the adjacent checkpoints to allow relaying of messages up and down the river. This keeps inter-CP traffic off the main net so it is clear for urgent messages. In particularly difficult cases a mini repeater on a suitable hill is set up if direct communications between CPs is not otherwise possible. Bands used included 70 cm, 2 m and 6 m.

WICEN's primary role is to assist with ensuring the safety of paddlers by passing various messages.

These include:

- Passing messages between CPs about the passage of canoes down the river. This ensures each canoe is accounted for at each CP.
- Passing messages about withdrawals so searches are not commenced for these canoes and to permit the paddler's land crew to be notified where to come and find the paddler.
- Passing messages about late or missing canoes, and reports from paddlers about other paddlers in difficulty to appropriate SAR agency.
- Arranging First Aid, Ambulance, or other assistance for paddlers.
- Passing general event management messages.

The bulk of messages are in the first category and are usually passed by voice. Packet is also used for these messages, either direct or via the digipeaters. Other messages are passed on the main net.

SES communications are provided through the GRN. Marine Rescue use a mixture of VHF Marine and 27 MHz Marine. This mixture of networks provides some interesting logistical challenges and requires good cooperation between all the volunteers.

WICEN net control was co-located with SES net control at SES Sydney West Headquarters at Seven Hills, refer Photo 1. Marine Rescue net control was at Finish at Berowra.

I have worked at CP Charlie for the last couple of years but this year was co-opted as the Deputy Event Commander. This involved attending HCC meetings, organising staffing, working on recovery plans, inspecting new CP locations, and many other things. Although it was more work than I expected I also learnt a lot. WICEN unfortunately lost a few volunteers due to illness in the last week which left us stretched for resources and me with a headache, but we scraped through thanks to some sterling efforts from a few of our members. I would like to thank all those involved. For next year I would like to find a few more operators so we can split shifts at a few key posts.

From WICEN's point of view the event seemed to run smoothly. There were no reports of message bottlenecks or failures. The most common problem with this event is hypothermia cases for paddlers who end up in the river. Fortunately the weather was exceptionally mild this year resulting in fewer first aid calls. We installed and trialled some redundant network components which all worked well. Given that much of the work on this event is related to participant's safety, in future I would like to do more work on ensuring as complete a coverage as possible, system redundancy, inter-agency messaging, and incident management.

The event will be on around the same time next year. If you want an opportunity to support the community and practise portable operations think about joining WICEN and offering your services.

Power supply requirements – surplus equipment

Justin Giles-Clark VK7TW

One of my favourite shops is the Resource Tip Shop up the road from where I live. This shop has salvage rights at the local tip and they pick up anything from timber, whitegoods, e-waste and the like, In fact anything they think still has value and they sell them at the Tip Shop.

If you are into home brewing and construction these places are great sources of components, equipment, cases, etc. and the cost is a fraction of the new item. I am constantly amazed at our throwaway society and the items I find at the tip shop.

However many, many times I have found what looks like a great piece of equipment in good condition that uses an external low voltage power supply and the power supply is missing and there are no labels and you have to work out what voltages and currents the item requires to get it working.

This is a short article on some of the techniques you can use to work out for low voltage equipment what is required, through a combination of internet sourced datasheets, circuit tracing and testing and I will be using the example of a circa 1990s CCTV video sequencing/ switching box.

Step 1

Do some searches on the Internet using your favourite search engine for an operations or service manual for the piece of equipment. The example I am using is a DMI SPR2 and even though the company still exists I could not locate a manual. If you can locate a manual and it is not too expensive or free then it will give you the power supply specifications and it is a matter of finding a suitable power supply matching the voltage and current requirements of the equipment. My Tip Shop has a huge selection of plug packs that have come in handy many times. However, one thing to be aware of with early (and some later!) switch mode plug packs is that they may introduce unwelcome RF noise to the amateur bands if used in the shack. I try to stick with linear ones if at all possible.

Step 2

Identify the power connector if it is not clearly labelled. Carefully take the top off and check the PCB for large electrolytic filter capacitors, bridge rectifiers and/or diodes and regulators. This will usually indicate which connector the power supply unit (PSU) uses. In the example it was a multi-pin mini-din connector indicating more than one voltage may be required. Take a look at the silk screening (if present) on the PCB as this may give you a hint to the voltage required.

Step 3

Take a look at the components on the PCB and see if you can identify any of them. Use your favourite internet search engine and download some free datasheets to identify the voltage and ground pins on the devices and what voltage the device nominally runs from. In the example I was able to identify some 74HCT and 74HC logic chips which I knew ran from +5 VDC and ground. Then it was a simple continuity check with a multimeter to see if the +5 VDC ran back to one of the pins on the PSU connector. I was in luck, it did. I noted the pin and then checked which pin(s) were connected to ground and noted those pins. I now had one of the voltages and grounds worked out.

Step 4

With a variable voltage and current power supply with ammeter inline I carefully placed +5 VDC and ground into the PCB on the previously identified pins and switched the unit on. There was no smoke released

Photo 1: Sequencer front panel.

Photo 2: Sequencer power supply capacitor filters.

from any device and some LEDs lit up although the unit did not function. This also gave me some idea of the current required to run the unit from 5 VDC – it was about 1.2 A, so I knew the capacity of the final power supply unit that would be required.

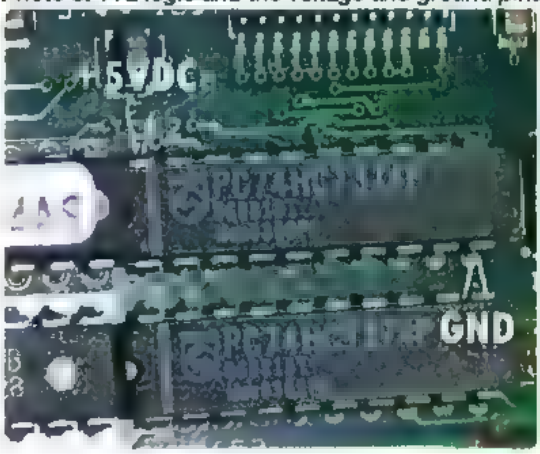
Step 5

Time for some circuit tracing around the power supply connector. The first thing I realized was that there were two other pins on the connector that were connected into the power supply area of the PCB and one went to the positive pin of a 25 V electrolytic filter capacitor and the other went to the negative pin of a 25 V electrolytic filter capacitor. This lead me to think there was a positive and negative supply required possibly for video amplifiers, switches, etc. I traced the circuit onto the PCB a little further to find that these traces went to three pin five volt regulators (78L05) used in both positive and negative configurations. Three pin regulators require at least 2-3 volts higher input than the regulated voltage therefore we were talking at least eight volts positive and negative. Given they were 78L05s – 100 mA regulators (re downloaded datasheet) I knew the positive and negative supplies were relatively low current. I later realized that the circuit designers were using a technique of separately regulating the video circuit power supplies and the logic circuit power supply to reduce interference on the video signals and switching circuits from the logic circuits. There were at least eight 78L05 regulators around the PCB.

Step 6

I did not have a variable dual rail supply so I took a chance that the positive and negative rails were 12 volts and connected a suitable positive and negative 12 VDC 1 A power supply and reconnected the 5 VDC. I rechecked that I had the right polarity of the power supply connected to the right capacitor as electrolytics tend to shed their can and explode if the polarity and voltage are incorrect. I switched all on, and sequencing LEDs on the front panel came alive and started to sequence. I plugged in a video monitor and video source and was able to see the switched video signal and started to play with the

Photo 3: TTL logic and the voltage and ground pins.



different functionality available in the unit.

The switch mode power supply unit (SMPSU) that I ended up using was also salvaged from an old Apple IIE clone that was also salvaged from a resource tip shop in VK5 many years ago! I soldered a suitable mini-DIN onto the SMPSU and re-tested. The sequencer is about to be used at our clubrooms to switch video cameras on the security system and records to a hard disk video recorder.

I do not guarantee these techniques will work every time and I have let the smoke out of a few devices in my time, but at least you have not paid too much for the item and there may be other components you can salvage – the worst thing would be to take it back to the tip!

Have fun homebrewing and recycling!

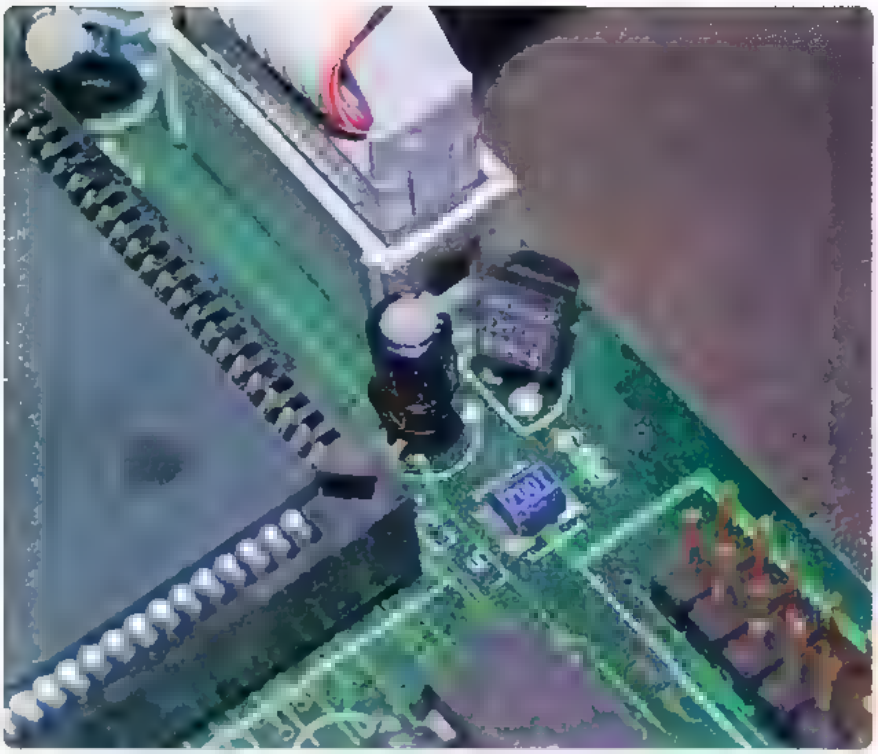


Photo 4: Low current regulator – 78L05 – 5 VDC 100 mA.

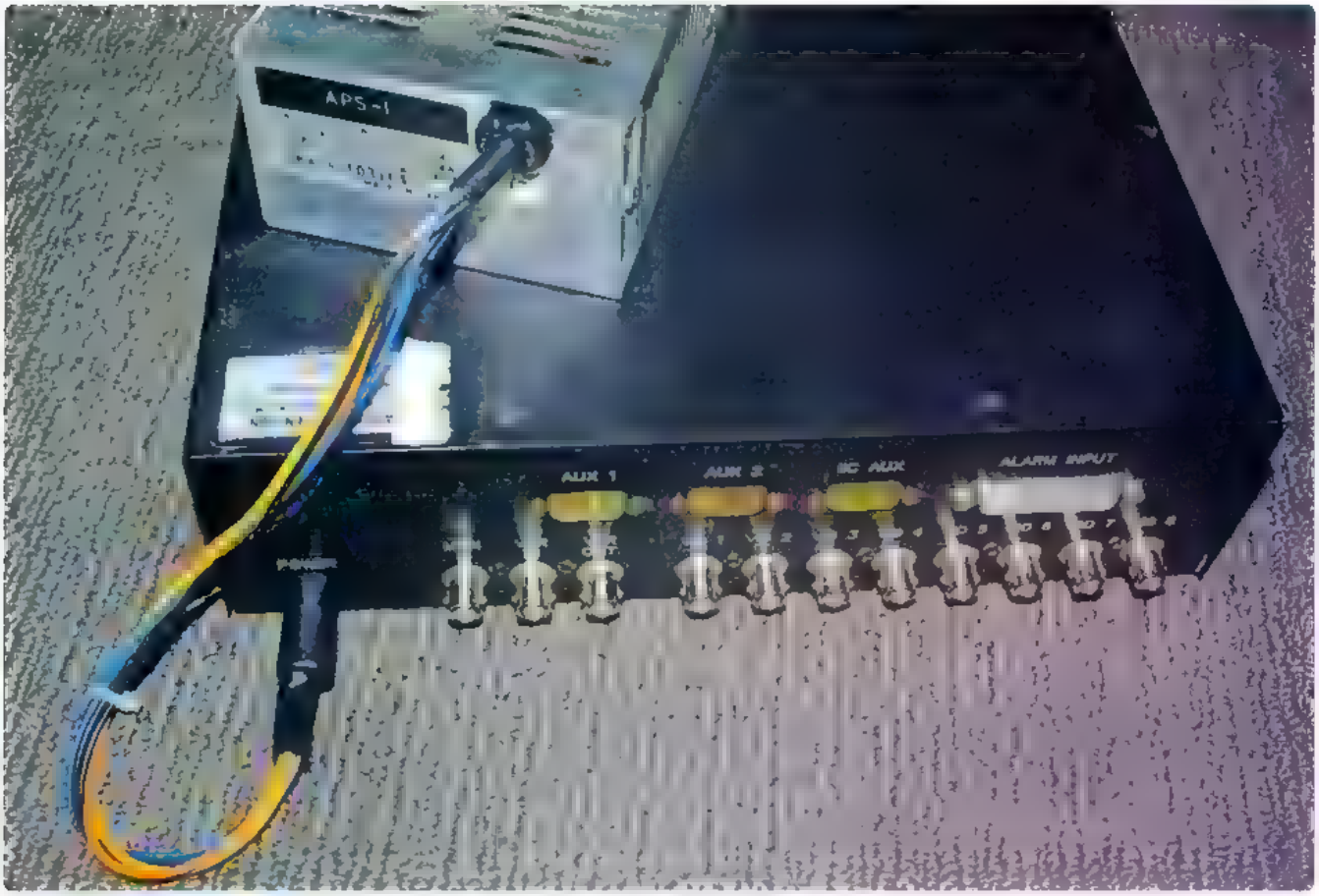


Photo 5: APS-1 salvaged SMPSU – re-deployed on the now working sequencer.

ILLW 2012 – Cape Schanck

Glenn Alford VK3CAM

International Lighthouse and Lightship Weekend has become a major world-wide event, with wide appeal. It's a unique event, acknowledging the vital part lighthouses played in coastal navigation. Lighthouses often located along rugged isolated coastal cliffs, exposed to the elements of the sea and weather. Lighthouse keepers endured punishing conditions, while providing a vital service. In later years radio also played a strong part in coastal navigation and safety.

Today lighthouse while still active, play a more secondary roll, with satellite technologies, now at the forefront.

It's staggering, some 473 lighthouses world-wide were activated by amateurs from 47 countries in 2012. This event has become more popular each year. Why? Well it's not a contest, it's simply a great weekend to take our hobby to a unique coastal location. A lighthouse on a spectacular rugged coastline. It also offers exposure to the curious public that have ventured to the coast.

Photo 1: The lighthouse at night.

This year VK3ILH activated Cape Schanck Lighthouse, on the Mornington Peninsula, about 90 minutes south from Melbourne. Cape Schanck has a choice of three lightkeeper's cottages on the property, along with a museum and of course spectacular coastal walks. This year we set up operations in the white house, built around 1853. Totally refurbished and re-fitted, it offered very comfortable and warm accommodation. We did, of course, keep the open fire place well stoked.

The operators were Carl, Damian, Jack and myself. We established the station on late afternoon on Friday, erecting two antennas: Cushcraft R5 vertical, and a Fretizel off centre wire dipole. The rig was a massive Icom IC-775 DSP. The benefit of this radio is that everything is built in, tuner, power supply, twin receiver, and an output of 200 watts. We achieved some 125 contacts, of which 47 were lighthouses.

Operations were commenced late Friday through to Sunday mid-morning, with low QRM or noise. So the new location on the site proved favourable. Jack VK3WWW also found some time to try his kite antenna. However wind conditions on some occasions provide too strong and challenging.

Photo 3: Jack VK3WWW flying his kite, with assistance from Damian VK3KQ.

Photo 2: The HF antenna outside the keeper's cottage.

Being at Cape Schanck also offered some very scenic coastal walks, so plenty of great photo opportunities. So if you have never experienced such a great weekend, you are certainly missing out. It's simple, find a lighthouse/lightship, register on line *www.illw.net*

Guidelines and more information is available on the web site. There are also lighthouse web sites that can help with location and details of the lighthouses. Then count the days down to the next ILLW: August 17-18th 2013. We have already begun the planning for the return of VK3ILH to Cape Schanck, in 2013.

Erratum: An ESR meter for Electrolytic Capacitors

by Jim Tregellas VK5JST

We regret that some of the images for the article "An ESR meter for Electrolytic Capacitors" by Jim Tregellas VK5JST were not correctly reproduced in the September issue of Amateur Radio.

In particular:

(a) the printed circuit pattern. The original drawing had a clear margin surrounding it which defined precisely the final printed circuit board size. This has been removed and replaced with an arbitrary border by AR making the pcb far too large to fit the box specified.

(b) the drawing for the component overlay and front panel pattern. This drawing has been down sized by about 5% making the front panel pattern useless for its intended purpose of marking out the box and producing a properly sized front panel label.

Correctly sized front panel artwork is available on author's homepage. http://www.users.on.net/~endsodds/esr.htm (Alternatively the front panel drawing can be increased to its correct size by using the artwork published in the September issue and a good photocopier. The correct size of the outer border of the front panel detail is 157 x 95 mm, producing a front panel label 80 mm wide by 82 mm high). Also available on the author's homepage is a full colour version of the meter scale for both MU-52 and MU-65 meters which was not submitted as part of the original article.

A pdf copy of all the artwork submitted for publication is also available on the September AR page on the WIA web site: http://www.wia.org.au/members/armag/2012/september/ Scroll to the bottom of the page to find the link.

Over to you

ESR Meter

As soon as saw Jim Tregellas' article An ESR meter for Electrolytic capacitors published in AR for September 2012, I realised that here was an extremely useful test instrument. Within a few days I had my version built and it worked exactly "as advertised". Congratulations to Jim on yet another excellent piece of gear: elegant in design, simple to build, inexpensive and accurate.

The kit looks good value and would undoubtedly result in a neater version than my copy, but, being a true amateur with deep pockets and short arms, I decided to raid my junk box and see what I could scrounge therefrom to build the meter with minimum financial outlay. In fact the only items I needed to purchase were the two ICs, an outlay of exactly three dollars and twenty cents. Some scrap chipboard and aluminium sheet sufficed to make an enclosure.

Reversing the printed circuit board artwork presented a problem so rather than waste time trying to work out how to do it I decided to simply hand draw it as shown in the article and then add the components "paddy board" style. This also removed the need to drill holes for the component leads. A little careful work with a Dalo pen soon saw the board copied and etched.

My meter was salvaged from an old Telstra unit whose function was lost in the mists of time. Although it was calibrated in microseconds and claimed to have an FSD of 10 volts, it was actually a 1 mA FSD movement and ideal for the job. Rather than follow Jim's method of using double sided tape to attach the new scale to the reverse side I chose to attach mine with PVA woodworking glue because the thickness of the tape would have caused the meter needle to foul. Using PVA has the added advantage that if you ever want to restore the meter to its original calibration, the glue can be removed by soaking in water.

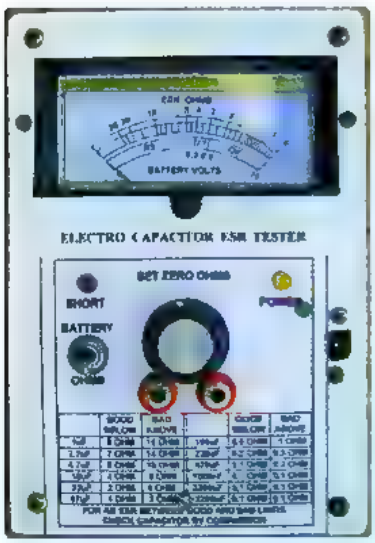
Apart from the ESR meter's primary function – which it does extremely well – it is also very handy for sorting out low ohms resistors, such as the 0.1 or 0.5 ohm emitter current balancing resistors found in transmitter output stages. It will easily distinguish between, say, a 0.1 and a 0.15-ohm resistor, something which may be more difficult using an ordinary multimeter.

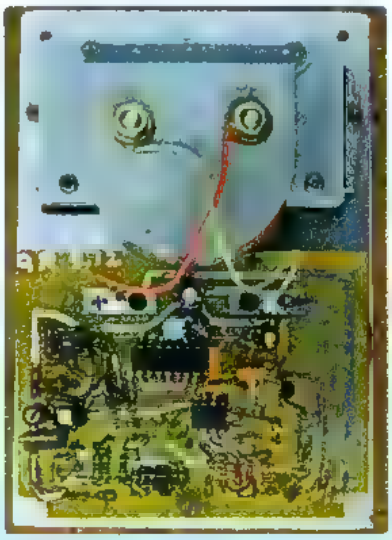
Like many other amateurs I have a large collection of salvaged electrolytic capacitors. Although I always endeavour to check their serviceability prior to reusing them, Jim's unit makes what was a chore with a capacitance meter and a timed leak test a breeze.

On occasions I have spent literally hours removing and testing electros in computer equipment simply because testing them in circuit was not a viable option. Jim's meter should change all that!

Once again, congratulations to VK5JST on an excellent and well written project. No self-respecting shack should be without one!

73 de Clive VK6CSW.





AMSAT

David Giles VK5DG
e *vk5dg@amsat.org*

40 years of OSCAR transponders

Since the launch of AO-6, we have always had at least one operational satellite with a transponder.

AMSAT OSCAR-6 was launched on 15th October, 1972 and remained operational for 4.5 years before the battery failed. It wasn't the first amateur satellite with either a transponder, telemetry or command control, but it was the first to combine all of these with some redundancy to provide a long life of service. It was based around a 2 m to 10 m linear transponder with a 70 cm beacon, 24 channels of telemetry and a messaging system called Codestore that could receive and re-transmit CW messages. Since personal computers were non-existent at the time the telemetry was transmitted in CW and the operator only had to copy the numbers and check them against some graphs. A similar system is in use on AO-7. AO-6 spawned an educational program for primary and secondary schools. The educational aspect was a major part of AO-6 getting a free launch. It had some problems. The 70 cm beacon failed after a few months but its main problem was an over sensitive control system that would randomly turn on or off the transponder. An ingenious world- wide network of automatic amateur ground stations was set up to (more-or-less) continually command AO-6 into whatever mode it should be in at the time. AO-6 was constructed in the USA with subsystems from Germany and Australia.

Open Source

What do Firefox, Thunderbird, LibreOffice and Linux have in common? They are all Open Source projects where the actual programming code is freely

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AMSAT-VK

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Website
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Group site:
group.amsat-vk.org

About AMSAT-VK

AMSAT-VK is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial Amateur Radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft.

AMSAT-VK is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

AMSAT-VK monthly net

Australian National Satellite net

The net takes place on the second Tuesday of each month at 8.30 pm eastern time, that is 0930 Z or 1030 Z depending on daylight saving. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

In New South Wales

VK2RMP Maddens Plains repeater 146.850 MHz
VK2RIS Saddleback repeater: 146.975 MHz
VK2RBT Mt Boyne Repeater on 146.675 MHz

In Queensland

VK4RIL Ladley repeater on 147.700 MHz
VK4RRC Redcliffe 146.925 MHz IRLP node 6404, EchoLink node 44666

In South Australia

VK5TRM, Loxton on 147.125 MHz
VK5RSC, Mt Terrible on 439.825 MHz IRLP node 6278, Echolink node 399996

In Tasmania

VK7RTV Gawler 6 m Repeater 53 775 MHz IRLP node 6124
VK7RTV Gawler 2 m. Repeater 146.775 MHz. IRLP node 6616

In the Northern Territory

VK8MA Katherine 146.700 MHz FM

Operators may join the net via the above repeaters or by connecting to EchoLink on either the AMSAT-NA or VK3JED conferences. The net is also available via IRLP reflector number 9558. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email. Frequencies and nodes can change without much notice. Details are put on the AMSAT-VK group site.

Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give hams national communications and handheld access into New Zealand at various times through the day and night.

Should you wish to join AMSAT-VK, details are available on the web site or sign-up at our group site as above. Membership is free and you will be made very welcome.

available for anyone to download and modify. While most computer users use some form of proprietary operating system and applications, it is likely that most of these will have used an open source program at some stage, directly or indirectly. A good example is that from a recent survey of over 600 million web servers, nearly 65% of them were using the open source program Apache [1]. Another is the Android operating system found on smartphones and tablet computers. The term 'Open Source' was first used in early 1988 when Netscape released the source code to their then popular web browser 'Navigator'. Sharing source code had been around since the early days of computing such as listing BASIC programs in computing journals. Today there are thousands of projects that anyone can join in and contribute to. Open Source has also diverged from just software. Open Source hardware such as the Arduino microcontroller platform, Openmoko mobile phones and the OpenRISC processors. Open Source drinks including Australia's own 'Brewtopia' [2]. Open Source is also branching into science and medicine fields.

Now we have the first Open Source satellite. The Open Source Satellite Initiative was founded in 2008 by Hojun Song, a South Korean artist. In his own words: 'Sputnik was launched in 1957. Even a dog (Laika) went to space too. I believe it is natural to think by 2011 that it's a time for an individual to start space projects of his own. There will be hurdles, but if we don't start now, we might never be able to start one in the future. Let's bring space fantasy back to people!' [3]. The satellite is called OSSI-1 or G.O.D. (Global Orbiting Device) and is a 1U size cubesat. It was scheduled to be launched in August on a Soyuz 2-1b into a 575 by 290 km orbit and is expected to last for a year before re-entry. The launch has been postponed until April 2013. It will have a 2 m uplink and 70 cm downlink using AX.25, a Cosmic Microwave Background radiation detector and four LEDs that will flash a message in CW.

As I write the website contains videos, pictures, and press releases. The closest I have found to actual source is the DIY_satellite document – and it is quite different. It consists mainly of sketches and short descriptions of the satellite design and launch. Nothing like a technical document that I expected. According to the press release the complete documentation on building and launching the satellite will be released after the launch. The video 'How OSSI-1 works: General Overview' features Hojun Song and a close look at the satellite itself. No mention of the radiation detector and they infer that the 2 m antenna is for a beacon. However the LEDs are 11 watts each and are powered via some super capacitors instead of just from the battery. He says any licensed amateur can request (possibly upload) a message that will be transmitted via the LEDs. Since the satellite is stabilised by a magnet and the LEDs are all on one face, I expect this will be seen only in the northern hemisphere. As to how much of the satellite is made from commercial parts and how much was made by Hojun Song and his team will have to be seen when the details are published. There is a video of a talk Hojun gave in Malmö, Sweden where he goes through previous projects and the tragedies and triumphs of building his satellite [4].

The OSSI website is *www.opensat.cc*

Final Pass

'So you want to build a satellite' has been a chapter in the satellite experimenter's handbook since the first edition. At last it is a reality, as OSSI-1 will be the first satellite built by a private individual rather than by or sponsored by an organisation. I'm looking forward to hearing it and seeing the open source.

References

[1] *http://news.netcraft.com/archives/2012/02/07/february-2012-web-server-survey.html*
[2] *http://www.brewtopia.com.au/*
[3] *http://opensat.cc/blog/launch/signing-ceremony/* (press kit)
[4] *http://www.uk.amsat.org/9220*

ALARA

Margaret Blight VK3FMAB – Publicity Officer

Congratulations Dot VK2DB on a job well done

After putting in a solid 20 years' work as Editor of the ALARA quarterly newsletter, Dot VK2DB has finally retired from the task. Our new editor is Susan VK3UMM who completed her first publication in July this year.

However Dot has not stepped down from taking an active role in radio. She has shared one of her recent experiences with us:

'Early in August we were having a family reunion at Yamba and OM John VK2ZOI wanted to keep his sked with Lord Howe Island and also check what the propagation was like from 'up the coast'. He used his 'mobile windom' which is strung between two squid poles and goes everywhere with us. He tied one squid pole to the verandah rail of our motel room and the other pole was tied to a chair in the barbeque area. It looked very unstable so I sat on the chair, held the pole and chatted to my son on the phone. Very good radio contact.'

Photo 1: Dot VK2DB holding the squid pole for OM VK2ZOI.

News about sponsors

Being sponsored by a member of another country's equivalent to ALARA means you receive a copy of that operator's newsletter. I recently received the winter edition of the WARO Bulletin which contained information on the NZART (New Zealand Association of Radio Transmitters) conference held in Nelson, NZ over the Queen's Birthday weekend. Part of the program included a number of forums one of which caught the attention of a few YLs so they registered to take part in Rory Deans 'Radio Tek'. In her own words Topsy ZL2LS described the experience.

My First Radio Build

Topsy ZL2LS

There were only three females in the class but we didn't care, we wanted to build a radio; we were really keen. We had a short presentation then we were handed our equipment and instructions. At this point we thought the instructors may have wondered what they had let themselves in for.

It was like paint by numbers but different, we had a diagram which indicated what needed to be done. After putting foil down on the diagram we found the correct components and placed them appropriately. Then we began our soldering, helped at times by the instructors. It was great fun. Despite hot glue on fingers, bits of solder here and there and a couple of broken components, I thought I was done. But when I turned it on the radio did not go. More help needed. After a few modifications and replacement of a broken component, this time we had sound. It was such a great moment to think that I had made this. Now I want to venture into building something else in the near future.

Comment: Topsy's enthusiasm for a practical demonstration of soldering and making up radio components would be shared, I believe, by any number of YLs should the opportunity arise. Encouragement should be given to the various radio clubs to offer classes to their members both male and female to develop their basic technical skills.

Sponsor story 2

Dot VK2DB sent a photo forwarded from her sponsor Nina DL2GRC and her OM Holger who are seen encouraging their four year old son to develop enthusiasm for the fun of foxhunting. What a great photo!

Photo 2: Junior foxhunters in Germany.

For people with an interest in ATV

The second annual QSO Party was held on Friday 24th–Saturday 25th August. It was hosted by Peter VK3BFG. This year the ALARA President Jean VK3VIP took part and also promoted the coming ALARA contest which was held on 25th-26th August.

ALARA Contest

Catherine VK4GH – ALARA Treasurer.

I just wanted to thank all those who joined in the ALARA contest, and I know that some of you made a special effort, such as visiting another shack, operating from a club shack, or making contacts for the few hours you had available.

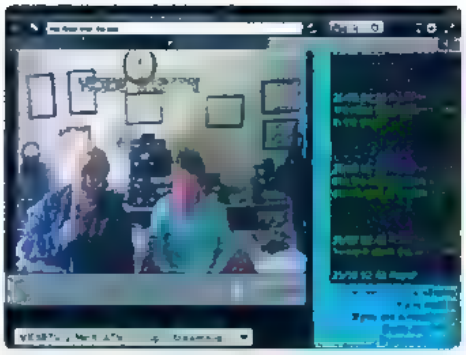

Photo 3: Jean VK3VIP and OM John VK3DQ as viewed in the USA during their ATVcontact.

I thought you would all like to know that on Sunday afternoon I had two contacts with Christa DJ1TE and one with Evelyne F5RPB, both members of ALARA. I also had a contact with Christina PA0DOM.

Many of my contacts were on 20 metres during the two afternoons, long path to Europe, and although it is sometimes difficult to pick out the calls and make a proper contact, the OMs appreciate a YL voice from the other side of the world.

Cheers to all.

Silent Key

Ian L Herrmann VK3YDY 1933-2012

Ian Herrmann VK3YDY passed away on 8 July, 2012.

As a radio amateur, Ian was for many years a regular member of the Dads Army Radio Group (DARG), which is a radio chat group that takes place most evenings. His unfailing good humour and extensive knowledge of the technical side of the hobby earned great respect.

Our sympathies and prayers are for Merlyn and family.

We felt privileged to have Ian accept us as friends and colleagues.

Contributed on behalf of his DARG colleagues Mike VK3WW, Pete VK3JN, Brian VK3ADV, Peter VK3ACJ, Roy VK3ZCU, George VK3DS and Bob VK3BWZ.

VK4news CQARA

Ray Dobinson VK4HOT
Vice President

Photo 1: CQARA at the Emergancy Services Day. From the left are Jack VK4JRC displaying radio tracking equipment and a working repeater station on the day, Bob VK4HRC, Ray VK4HOT and Don VK4BY displaying two portable self-contained stations with solar panel assisted batteries. Others present were Jeff VK4NBJ, Graham VK4NFZ, Lyle VK4LM, Merv VK4DV, Jason VK4FJGS and Richard VK4FRIK. Photo courtesy of Brian VK4MBG XYL Dell Groskoph.

This year has flown by so quickly, and the Central Queensland Amateur Radio Association (CQARA - *www.cqara.org.au*) has not stopped long enough to write an article for the news, but now comes the time to rectify that. In the last few months the CQARA has had so many activities, sending members far and wide enjoying this marvellous hobby.

Some activities that the CQARA have participated in recent months include the Rockhampton Emergency Services Day, a Bunning's sausage sizzle, moving of new club assets to Weasel Park, Rockhampton Heritage Village support and activities and participation in the ILLW at Sea Hill Lighthouse AU0060.

The Rockhampton Emergency Services Day allowed our members to prepare an amazing emergency radio display for the local community's benefit. Unfortunately our Christmas in July event was cancelled due to bad weather, however this event will run on 23rd September and will include another round from our very competitive and popular annual fox hunting calendar.

A Bunning's sausage sizzle was also a highlight which produced welcome cash for our association and some interested people who may not have known we existed and what amateur radio is all about.

A donation of a caravan by Les VK4QI and his lovely wife June Berryman, to our association's base of operations at Weasel Park, saw members moving and updating the grounds. Life member Jack VK4JRC once again has shown exceptional commitment to our association by continual maintenance of this facility, with the help of Ray VK4HOT and Graham VK4NFZ.

Photo 2: The CQARA Bunnings hot snag day, from left are Bunnings staff member, Graham VK4NFZ, Lee VK4YLW, Brian VK4MBG, Ray VK4HOT, Bob VK4HRC, Dell Grosskoff and Barbara Kocho. Members who helped out and are not in the photo were Frank VK4FLR, Jack VK4JRC, Mick VK4 NHX and Lyle VK4LM. Photo courtesy of Beth Mave.

Photo 3: Jack VK4 JRC removing a caravan with a Dingo machine for Weasel Park, the CQARA's new acreage and club house.

Many members have used this area for radio activities and continue to look forward to further events held there.

The Rockhampton Heritage Village radio display and open days brings invaluable exposure to our hobby that no other facility could provide.

Finally some of the adventurous members made their way to Sea Hill Lighthouse AU0060 at Curtis Island for the ILLW event. It is pleasing to inform all that over the last 12 months this lighthouse has become heritage listed. This event would not have been as successful without the support from locals of Curtis Island, Clare who allowed us to use her house, and to Pat and Jo Carrol who provided marine transport from Port Alma.

Photo 4: This photo was taken by Rob VK4TW at the house that was used by the staff of the Sea Hill Lighthouse when it was manned. From the left are Ray VK4HOT, Jason VK4FJGS, Jack VK4JRC, Graham VK4NFZ and Richard VK4FRIK, and the bucket of crabs.

Photo 5: Graham VK4NFZ with the catch of the day at Sea Hill Lighthouse.

VK6news

Keith Bainbridge VK6RK
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Well I had almost a year off! I received an email from John asking me to take over the notes again as his work commitments up north and family commitments when home were making the VK6 notes a task rather than a pleasure. So what could I say but, yes I'll give it another go.

I'd like to start off by thanking John for his columns over the past year, I know how hard it is to get input from the local VK6 groups; but you are all going to change that problem for me aren't you!

Well done John, your work was much appreciated.

Hamfest 2012

I suppose I should start off with a 26th NCRG Hamfest report as its now over a week past and the facts and figures are coming in to the NCRG committee. It seems it was an improvement on the year before with over 320 people through the doors, up about 25 on last year. Perhaps the hobby isn't dying in WA.

This year was the first in many where we did not have a physical representation by the leading three manufacturers in amateur radio equipment. John from Tower Communications has retired and there are no longer any companies selling Yaesu, Kenwood or Icom amateur radio equipment willing to come along to Hamfest.

Perhaps it's because they don't attend that many amateurs these days buy their equipment direct from the USA or elsewhere or is it just a sign of the 'internet age'?

However Tet Emtron and Outbacker antennas did attend and both had a very successful day.

Icom were very happy to supply a selection of prizes for us to raffle including a 70 cm handheld, caps, and a good selection of posters to adorn the prize table, we do really appreciate their support. Yaesu and Kenwood please take notice for next year!

There were many flea market tables, over 50, and they were full of the usual junk, sorry, priceless items in the eye of the beholder! The food was excellent. Luckily an alternative supplier was found and everyone agreed it was up to or beyond our usual standards; these last minute dramas cause heart attacks.

So the raffle prizes and winners were as follows:
1st: Icom ID-31A donated by Icom and won by Harry VK6BB.
2nd: Outbacker Perth mobile HF antenna donated by Outbacker and won by Julie VK6TTT.
3rd: Soldering station donated by Alek VK6AP and won by Wes VK6WX.
4th: 4:1 balun donated by Tet Emtron and won by Tony VK6HAM.
5th: Well I was drawing the prizes and I drew my own ticket so it was redrawn and won by Joe VK6BFI who also re donated it. It was a multimeter donated by Alek VK6AP and it was eventually won by Harry VK6BB again!
6th and 7th: Were screwdriver sets won by Steve VK6SMK and Ken VK6CO.

The home brew competition was judged by Steve VK6VZ and was won by VK6AAK (a $40 voucher for Altronics), with 2nd place going to VK6CG.

Well that's it for another year. The hall is booked for the first Sunday in August 2013 so see you there.

Travel news from Mirek VK6DXI

I have been recently on a business trip to Oman. As this trip literally happened overnight I had no chance to apply for a visitor licence. But I always try to get on the air from places I visit. So I contacted local amateurs and I was able to

Photo 1: Harry VK6BB receives his Icom ID-31A.

get on the air a couple of times. First was the station of Mohammed A41TT in Sohar and then Mohammed A41NN in Muscat. The hosts were extremely hospitable, though it was a time of Ramadan. A41NN took me for the night tour (on my last night in Oman) of Muscat, showing me a night market, Kings Palace and Mohammed's and his uncles' houses. We also visited A47RS, Royal Omani Amateur Radio Society station.

I was not aware of it but H.M.Sultan Qaboos Bin Said, Sultan of Oman has an amateur radio licence and a call, A41AA. He was not at his palace at the time so I missed out on this important meeting. By the way A41NN works for His Majesty.

It seems it is possible to arrange an Omani licence. It is only necessary to contact Royal Omani Amateur Radio Society for the procedure and give some time for it. Attached are some pictures from my visits.

As it was my first ever visit to Oman, I could increase my DXFC score *(http://www.dxfc.org/)*. It is DXCF visit number 66 and 51st DXCF QRV. Till next one. 73. Mirek VK6DXI.

Thanks Mirek for the report on one of your many travel locations, shame it's for work!

Photo 2: VK6AAK with his homebrew prize, a $40 voucher for use at Altronics.

Now from the VHF Group - contributed by Bob VK6KW, President VHF Group Inc.

VIP Centenary

The West Australian VHF Group Inc is running in top gear with another public AR display station similar to the VK100WIA Super Springtime. As many of you know, September 2012 will see the centenary of the establishment of our nation's coastal radio station network.

VIP Perth on Wireless Hill, Ardross, is believed to be the only remaining survivor in public hands. The WA VHF Group was instrumental in the preservation of the buildings to house a Telecommunications Museum and now has almost certainly secured a permanent Hamshack as part of the re-vamping. This was the site of the 2010 WIA Centenary celebration airing the VK100WIA call for 12 consecutive days in a co-operative venture by nine local radio groups.

In coordination with the Melville City Council, the WA VHF Group has made application to again air the commemorative callsign VI6VIP (previous occasions being 1992 and 2004) for this station which will be open to the public from 0100Z to 1000Z daily, from Saturday 29 September to 13 October, inclusive.

Of course in true ham fashion we expect the station to be active well beyond these hours. So here is our invitation to you. If you're interested in promoting amateur radio to the public and helping to increase our numbers, please contact the WA VHF Group via *http://www.wavhfgroup.org.au/* where you will find more information about the event and some future plans for Wireless Hill.

Bob VK6KW, President VHF Group Inc.

This is one of those historical events that needs the support of the amateur fraternity in general, so if you can help please contact Bob.

That's it for this month.

I'm pleased to be back with you, but as always, I need your input to produce this column every month.

I look forward to hearing from you. Vy 73 and gd DX.

Silent Key

John van Staveren VK7JV, 1938-2012

John was born in the Netherlands and migrated to South Australia with his family at age 17; they settled first in Balhannah, then Peterborough and later Adelaide. While in Peterborough, John worked as a mechanic in the local garage.

When they moved to Adelaide, John started work with Cyclone Scaffolding; it was during this time he met and married Joy. John and Joy moved to Launceston in the mid-1960s when John was transferred by Cyclone Scaffolding to manage their Launceston depot.

He became licensed as VK7JV in about 1968 and shortly after became heavily involved in the activities of the WIA Tasmanian Division, Northern Branch (now NTARC). He was the branch's equipment officer for a number of years and the founding editor of the branch's newsletter 'QRM', which later became the VK7 newsletter then the VK7 column in AR Magazine for many years.

Being adept at scaffolding, John proved a most useful help in assembling antenna towers and similar structures. He also ran Morse code classes at their home; these became a social event and, thanks to Joy, many an enthusiast spent evenings enjoying tea and cakes, whether studying Morse code or not.

He was a keen participant in contests and a pioneer of slow scan TV, digital photography and early computers. He operated on bands from 160 to two metres.

His other interests included photography, caving, slot cars, fishing, scuba diving, rifle and pistol shooting. His skills and patience as a teacher were appreciated by many in several of these pursuits.

Although not very active in recent years, John kept in touch with a few local amateurs. He is survived by his wife Joy. Vale John, we'll miss your humorous email messages.

Contributed by Peter Dowde VK7PD.

VK2news

Tim Mills VK2ZTM
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These notes have to be compiled one or more months before you get to read them and the most regular material source is from the VK2WI broadcast notes. With these long lead times there can be changes of dates or activities. Sometimes the projected events will differ from what finally happened. What I consider important in these notes is that a lot of history can be recorded in the printed word in a magazine like *Amateur Radio*, rather than the seemingly more ephemeral web page. The article on Wally Hannam would not have been as easy if those stories/reports had not been preserved originally in the printed newspaper format.

The Fishers Ghost ARC has recently been celebrating their 30th Birthday. They were honoured by the Mayor of Campbelltown who had a civic reception for members of the Club in recognition of the Club's achievements. FGARC will be operating in this month's JOTA from two locations being the Cataract Scout Park for the Scouts and Kentlyn for the Girl Guides. FGARC will be holding a 30th Birthday Dinner next month, advises Lynn VK2FLMK.

To provide suitable publicity for JOTA operations would clubs and groups setting field stations please advise VK2WI News locations and times.

Blue Mountains ARC was forced to cancel Winterfest they had scheduled for the end of August. They will use the time till next August to plan an even bigger event advises publicity officer Erik VK2EJH. Their new club location in Moore Street, Glenbrook is still being established and fitted out.

VK2WI received a CD recording of their 40 metre AM transmission that Spanish SWL Luis EA3-5154 copied last February. Not a bad signal. It was nice to hear the signal from the other side of the world. A new transceiver has been placed in service on the 20 metre 14.170 MHz broadcast channel and has made callbacks practical again. ARNSW will have the final T&T for the year on 25th November. Some planning into 2013 has a Members Anniversary BBQ on Sunday, the 10th March. The AGM is set down for Saturday, 20th April. ARNSW has added a disabled toilet unit to the site, adjacent the Centenary Building. This supplements the existing on-site septic facility. Also recently commissioned has been a set of three fire hose reels with a pump connected to the rain water tank. The VK2WI site is a bushland site with a good cover of trees.

VK2RWI has upgraded the six metre repeater on 53.850 MHz. This should provide much improved coverage of Sydney, extending into the central and south coast.

WICEN NSW have a lot of activity this month including the on-going search for missing aircraft VH-MDX on the weekend of the 20th and 21st. The following weekend, the 27th and 28th is the annual Hawkesbury Canoe Classic. Last month they held their AGM. VK1 WICEN also has several events before the end of the year.

Strong winds across Sydney in August were a problem for the Waverley ARS and their club rooms in the eastern suburb's location of Rose Bay. Two trees within the property came down, one of which made a mess of the roof top antenna system.

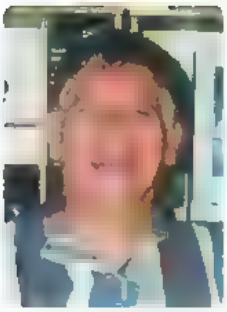
The Oxley Region ARC held their AGM in early August. Henry VK2ZHE continued as President and also found he had the position of Secretary. Bruce VK2HOT is Vice President and Keith VK2FKJA is Treasurer. Committee members Bill VK2ZCV, Arthur VK2ATM and Larry VK2CLL make up the team. Stuart VK2KSM has recently offered to assist with some of the secretarial duties. The Club station VK2BOR operated in both the RD Contest and the Lighthouse weekend. The APRS unit installed at the VK2RCN site to the north west of Port Macquarie has been very successful in filling areas not covered by the APRS system at VK2RPM in the south.

The Hunter Radio Group contest members took part in the RD from the Luskintyre Airport which is also the Tiger Moth Museum. This is a regular contest site for the HRG with its on-site accommodation and good antennas between tall pine trees.

The Illawarra ARS held their AGM in August. They are settling in well at the new meeting location at the Figtree RSL Bowling Club. A current project has been to install a repeater at Jervis Bay down the south coast. During the testing stage advises Ross VK2VVV it will be a stand-alone repeater, but will eventually be conferenced into the Coast Link network.

The Snowy Mountains ARC, while being a small group, has developed an extensive repeater network in the south east corner of VK2 advised President Bill VK2ZZF. Their several two metre repeaters are also linked to a far south coast system.

73 - Tim VK2ZTM.



Spotlight on **SWLing**

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Well it is October and that usually means that we have frequent rain squalls and wind. It is also the month when the clocks go either forward or back, depending in which hemisphere you are in. Here we advanced the clocks on the first Sunday of the month in NSW, Victoria, Tasmania, the ACT and South Australia. NZ advanced theirs on the last Sunday of September. European nations wind theirs back at 0200 LT on the 28th of October. North America winds theirs back on the 4th of November. It really would help if there was a worldwide standard date yet this is wishful thinking.

October is also the commencement of the B-12 schedules. It also sees the end of transmissions from Bonaire in the former Netherland Antilles. This relay station used to provide strong signals into Australia for Radio Netherlands but it was a victim of the substantial budget cutbacks to that organisation in 2011. The senders and antennas are likely to be dismantled because no other broadcaster had shown any interest in taking them over. This is what happened to the RCI Sackville transmitters and antennas. Radio Netherlands also operated a relay station in Madagascar but this was purchased in a local management buyout. The site now broadcasts commercially for other organisations.

Two religious shortwave broadcasters have also left the airwaves, in August. WTJC in North Carolina closed down quietly at the beginning of the month; it was occasionally heard here in Australia on 9370. In its last weeks, the senders really began to malfunction and put out spurious signals as well as drifting. So the decision was made to close down. I guess they could not 'Wait Till Jesus Comes', which was their slogan!

The other station was Christian Voice from Santiago, Chile. This was rarely heard here and like HCJB in Ecuador, the station opted to provide a feeder service via satellite for rebroadcasting on local stations and networks across Latin America. Programs originate from Miami and not from Latin America. The closure of CVC from Santiago also means that another nation has left shortwave.

I recently discovered this link to a SDR receiver online from the Netherlands. It is *http://websdr.ewi.utwente.nl:8901/* It is based at a university and has previously been active yet mainly over the HF amateur bands. Now it has continuous coverage from 9 kHz to 29 MHz but only has a small whip antenna on the roof. Surprisingly it works well and there are numerous operators simultaneously using the facility. The Globaltuners site with many receivers located throughout the World can only process one user per receiver. I have personally found though the audio on the latter is better. The SDR audio can chop in and out, which can be quite annoying, as are my continual hearing hassles!

VHF/UHF - An Expanding World

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Weak Signal

Spring has arrived and has brought some more interesting weather patterns. Across the south of the country, there have been several high-pressure cells that have produced some lift in propagation. Unfortunately, there have only been a few contacts - perhaps people are not on the lookout yet.

The evening of August 26th did produce some good contacts on 2 m from the Adelaide area across to the NSW coast. At 1020Z, Phil VK5AKK reported hearing the Newcastle Ch 5A TV vision carrier (we will miss that when it shuts down on November 27th). At 1115Z, he worked Steve VK2ZT near Newcastle with 4x1/5x1 reports – a path of 1244 km. At 1130Z, Bill VK5ACY and Peter VK5PJ also worked Steve with 5x1 reports. Nothing on any higher bands.

50 records and counting

Congratulations to fellow columnist and microwave rover Rex VK7MO for achieving his 50th Australian VHF-UHF distance record.

His first record was set in January 1964 when, as VK3OB, Rex set the first ever National distance record of 156.6 km on the then-newly-created 70 cm band.

In June 2012, his 50th record is for 24 GHz Digital Modes over a distance of 461.7 km – in 48 years, three times the distance at 56 times the frequency!

I'm sure there'll be a few more yet.

Please send any Weak Signal reports to David VK3HZ at *vk3hz@wia.org.au*

Digital DX Modes

Rex Moncur VK7MO

FSK441

Welcome to Mick VK4NE who has joined in the weekend activity sessions and completed his first meteor scatter with Arie VK3AMZ.

A few years ago Meteor Scatter was predominantly centred on VK3 but over the last six months VK4 has come to dominate the scene as a result of efforts by Kevin VK4UH to encourage activity – well done Kevin.

10 GHz Home station VK3BQJ

Rod VK3BQJ has been experimenting with aircraft scatter from his home station down to Rex VK7MO over a 567 km path using JT65c. The only useful aircraft are three flights that leave Launceston for Sydney/Brisbane each day. Alignment is a major issue with Rod's 850 mm dish above his roof on a HF type rotator – but he is making progress by incrementing azimuth in small amounts and seeing when an aircraft produces a signal – rather painful with only three aircraft a day. Once azimuth is optimised, Rod will look at elevation which at present is controlled by wedges in the clamp that holds the dish. To date Rod has received only two decodes and nothing the other way but hopefully once alignment is optimised a QSO can be completed.

My steady adventure into 2 m digital EME

Ross VK2DVZ sent in the following item:

Back in time in the mid 1980s I built a bay of 4 x10 element DL6WU design Yagis (see below) and installed them onto a then new 13.7 m Nally tower that I had purchased. I later added a 2 m PA that used a pair of 4CX250B tubes. The performance of that set-up soon became apparent with many enjoyable SSB contacts being made on the 2 m band, using various means of propagation which included tropospheric ducting across to New Zealand, aircraft enhanced signals to the north to Maleny and beyond and to the south to the ACT and beyond. Throw in many 'local' contacts and some inland ducts and some aurora into the mix and a curiosity with 2 m EME followed on.

I had heard/copied other's signals off the moon. I would try to hear my own 2 m CW signals on moonrise, sometimes successfully sometimes not.

It wasn't long before David VK3AUU, who at that time was running a big 2 m station, found out that I was hearing a few stations off the moon, arranged a multi-station schedule with Dave W5UN, each to try and work him on 2 m CW on a pre-arranged date and time. If my memory is working, there was a ZL, a Fijian station, myself, a VK4, I think Ed VK1VP and David VK3AUU – there may have been others, but as best I can recall all stations worked W5UN on CW, as arranged.

On that contact I recall being able to hear then read the W5UN

signal before I had moon rise and before it was my turn to try to work Dave. What a thrill it was to succeed and to see an S5-6 signal on the meter - off the moon!

Back then there was no Internet logger to check into to see who was on air or 'on the moon' at a given time. All contacts were either pre-arranged or made by chance. I used a Commodore 64 or a very early version of a pocket computer to track the moon, both used a 'type-it-in-yourself' simple tracking program to determine the moon position. Not having any elevation capability at that time, only the rise and set times of the moon were needed.

I did not pursue 2 m CW EME any further after I had worked about six stations scattered in the US or Europe.

Fast forward to 2010 and after a change of QTH some 10 years earlier and still using the same tower, antennas and PA and having better computers, digital programs, loggers and the like, it was time to try 2 m EME again using a much easier means of communication via the moon – namely JT65B, one of the WSJT suite of digital modes, rather than CW. So still without any elevation I started to listen to and decode digital signals off the moon at moon-rise and moon-set.

In November 2010 I worked my first 2 m station, namely I2FAK. Over the next few months I managed to work about two dozen stations. One early morning I announced on the N0UK 2 m logger that I was going to Tx as a test running 50 watts only. Back came RT4I off the moon whom I worked and on the logger he asked was my PA broken. That was a real QRP thrill for me. Quite a number of stations have now been worked off the moon.

An elevation actuator and 2 m mast mounted pre-amplifier were subsequently added to the station, giving greater flexibility to operating times and performance improvement. Many EME stations have now been worked around the world, with more to come.

Photo 1: VK2DVZ 2 m EME array.

Meteor scatter contacts using FSK441 mode are regularly made with Bob ZL3TY in Greymouth at a distance of 2026 km and with a number of VK stations also, mainly on weekends – it is good fun.

Come and join me some time on 2 m EME or meteor scatter, you too may get the real digital buzz!

Please send any Digital DX Modes reports to Rex VK7MO at *rmoncur@bigpond.net.au*

The Magic Band – 6 m DX

Brian Cleland VK5BC

August produced very little in the southern areas of VK but in the north several good TEP openings occurred to the north, Japan, China etc. with contacts also being made into the Middle East by Gary VK8AW in Darwin.

Gary VK8AW is now well and truly settled into Darwin and has a great 6 m station setup running an Icom IC-7700 into a 9-element M2 Yagi 50 feet (15.2 m) above ground level and is now reaping the rewards of the propagation that can be experienced from Darwin. Gary reports:

4 August – Chinese TV arrived around 0700Z and then the A6 TV from Qatar on 48.250 appeared around 1227Z but was not very strong. The band opened with JI1CUL, JA3MDG and JF2WXS all worked on SSB at 1115Z from central Japan. Then BV3CE from Taiwan was worked at 1150Z and it was over to China with BA4SI who was S9. Many beacons were heard with JA6YBR, JA2IGY, JR6YAG, DU1EV and BV2YA all between S2 – S9. Conditions flittered around with 9W6RT (Roger) and DU1GM (George) both worked around 1300Z.

On 10 August the band opened a little later at 1204Z with BV3CE and JM1XRL (Taka) both worked at S9. The Chinese TV was its usual +20 dB and faded out around 1300Z, but returned at 1400Z a lot

weaker and 'hollow' sounding. The Middle East TV (48.250) pegged 20 dB over at 1115Z but nothing was heard from that direction.

17 August was a quiet one with BG6CJR being worked on CW at 1140Z and a few weak JAs heard but not worked.

On 19 August, many weak JAs were heard on 50.055 CW around 1156Z in what appeared to be a contest of some sort and I tried to work JM2CAN but no response was received. I then worked JR3UPT (Jack) at 1212Z who was S9 with the usual JA2IGY, JA6YBR, JR6YAG and BV2YA beacons all between S1 – S5.

On 26 August I copied VK4TVL on 50.293 (WSPR) at 0741Z. Lloyd's 5 watts to a vertical came stomping thru with the digital signal very 'crisp/clear' on Spectrum Lab for a good hour. Then 9V1TT (Andrew) from Singapore came in at 1240Z and we chatted on SSB for about 30 minutes on 50.130. BV3CE from Taiwan appeared at 1315Z and then DU7/PA0HIP (Willem) made the log at 1330Z. Then BX4AG was worked at 1345Z and I was surprised when A45XR (Chris) from Oman turned up at 1355Z who was quickly worked on CW. 9M6YBG from East Malaysia came in at 1415Z on CW for the last contact of the evening. The BV2YA beacon was logged at 1323Z but no JA beacons were heard that night.

29 August was a quiet one with 9W6RT (Roger) appearing at 1345Z and was worked on SSB. The Chinese TV made its usual appearance but there was no sign of Middle East TV on 48 MHz.

The month was nicely rounded out on the 31st with A92IO (Dave) from Bahrain appearing and being worked at 1320Z on SSB. Then conditions went short with BV2DQ from Taiwan at 1328Z and then 9W6RT (Roger) at 1345Z and YB0CBI at 1400Z. Conditions shifted and JM1SZY made the log at 1417Z and then 9M2/JG3TTO appeared at 1440Z for a very late contact. The BV2YA, DU1EV and JA6YBR beacons were all S5 – S7. 9M2/JG3TTO is running a beacon on 50.025 CW and is heard most evenings around 1300Z. The highlight of the month was hearing the Middle East beacon A47RB on 50.004 around 1400Z. Middle East TV has been getting stronger and often peaks 20 dB over several times during the evenings. This is getting louder as the weeks pass and September is looking very promising with the A47RB beacon already logged.

Photo 2: The 6 m Yagi at the station of Gary VK8AW.

Photo 3: The VK8AW shack.

Meanwhile news from Rod VK6KP/VK3TG in Karratha North West WA: *The band was very quiet over the winter months but things are improving rapidly on 6 m. The band is now open most afternoons around the normal 2 pm local time, if only the TV from BA, which tends to disappear and then reappear around 5 pm local (0900Z) Band is open most evenings to JA/BA and BV. I have not heard anything from Oman or Dubai on 48 MHz yet but most evenings I have to give it away around 9 pm local (1300Z). Work commitments have limited my time on 6 m but looking back in the log for August the following was logged:*

1st Aug 0930UTC BA TV full scale in-band with a number of JA beacons. 0935 UTC worked JA1RJU on 110 at 5/9.

No activity from here (due to work) until 21st August when I caught up with LI BA4SI at 1139Z on 110 at 55 both ways.

22nd Aug - JH4GJR 0841 UTC 50.120 59+ plus many other JAs operating all the way up to 50.250.

23rd Aug 0930UTC BA TV in-band and a number of JA beacons.

Next chance was on the 29th August 1136 UTC BX2ACM 50.110 at 53 both ways, then 1139 50.110 BM2KUR at 53 both ways.

30th Aug 1231 UTC JE6AZU 50.110 at 599 both ways. Many other JAs calling.

31st Aug 1200Z BV/B many JA/B up to S7 plus inband BA TV.

1st Sept 0800Z Wide opening to JA CW/phone up to 50.240 S9+.

As I said conditions improving daily and I hope maybe something from ME or EU in the next two months?!

Now the bad news ... after over two years here in the Pilbara I will be leaving mid-October (Needed back on the other side - so much for retirement!!).

Six metres has been great. Running just a three element Yagi at 15 feet (4.6 m) then a four element Yagi at 18 feet (5.5 m), it has been amazing what can be worked. You just need some basic understanding about how the band works and anything is possible.

I have had great assistance from locals, Michael VK6BHY and Steve VK6HV.

T6MO would have to have been the most interesting contact from Afghanistan, along with A92IO and A65BP. Europe so far no luck! Wide space Yagi with some height might have helped! Will probably open the day after we leave!!

My wife and I have joined the "grey nomads" and will be mobile heading north via Broome, Darwin, then south via probably Mount Isa, Longreach and down the coast back to VK3. Will have 6 m and HF.

There has also been some TEP activity from northern Queensland with beacons and TV reported from Japan and China and on the 31st Aug it extended down as far Ray VK4BLK in Yeppoon and Brian VK4EK in Sapphire who both reported hearing JA beacons and Ray working JR6EXN 559 CW and 5/9 SSB.

In some good news, Craig VK6JJJ advises he will be travelling to the Australian Antarctic Station "Mawson" by the ice breaker Aurora Australis mid-January 2013 as an expeditioner on the 2013/14 Australian National Antarctic Research Expedition and will be wintering at Mawson Station for approximately twelve months, then returning to Australia around January 2014. Whilst there, Craig plans to be operational as VK0JJJ on bands 160 m to 6 m with some priority given to 6 m operation where he is planning to run 400 W into a 5-el Yagi. Craig also hopes to have a 6 m beacon operational on 50.300 MHz, callsign to be advised. Keep a watch on VK0JJJ in QRZ for updates.

Please send any 6 m information to Brian VK5BC at *briancleland@bigpond.com*

VK5news Adelaide Hills Amateur Radio Society

David Clegg VK5KC

Photo 1: Dawn breaks over Cape Willoughby.

The August meeting was a talk by Keith Gooley VK5OQ on his visit to Bletchley Park in the UK. Keith illustrated his talk with photos of the reconstructed machines used for decoding the German messages encoded with the Enigma machines.

The September meeting was a talk on Codec 2 by David Rowe VK5DGR. David recently received the ARRL Technical award for his work. The October meeting will be our annual construction night. Graham Dicker, VK5ZFZ provides parts and expertise for a small project to be made on the night. Sunday, 4 November will be the annual Buy and Sell, held at the Goodwood Community Centre, Rosa Street, Goodwood. Seller access from 9.30 am. Contact David VK5KC or Roy VK5NRG to book your table.

Several members activated the club call VK5BAR at the Shack for the Remembrance Day Contest.

Photo 2: The storage rack for the signalling flags.

Photo 3: Paul VK5PAS and Lesley VK5LOL at the operating desk.

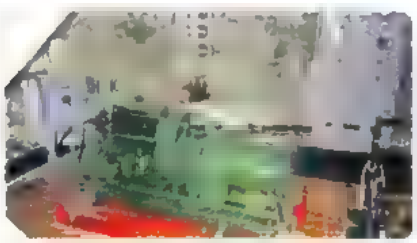

Photo 4: The Cape Willoughby backup generator, now sitting idle.

Operation was on Saturday, and we had 164 contacts.

For the lighthouse weekend several of us travelled to Cape Willoughby, at the eastern end of Kangaroo Island. The special callsign VI5CW was allocated for the weekend.

Over 400 contacts were made on bands from 80 to two metres. Operators were Paul VK5PAS and XYL Marija, Mark VK5VW and XYL Michelle VK5FERN, Hans VK5YX and Lesley VK5LOL, Trevor VK5ATW, Sasi VK5SN and XYL Ayswaria VK5FASH, David VK5KC and XYL Joy.

The ferry trip over to the island on Friday was in gale force winds, but all survived with breakfast intact. The maximum recorded gust that day was 53 knots. The lighthouse was first in operation in 1852. The high-power lights and rotating prism lens are now long gone. The light is now a circle of LEDs which flash three times in 30 seconds. The backup motor generator set now sits idle, with backup supplied by two 12 volt batteries. ABC radio 891 called Paul for a phone interview on Sunday morning, and this is now featured on the AHARS website. The weekend was a great success, with good food, drink and company. Thanks to Paul VK5PAS for arranging the weekend. All contacts will be sent a beautiful QSL card.

Our regular scribe Christine Taylor has been unwell, but is now recovering.

Photo 5. Trevor VK5ATW in the operating chair.

Contests

Phil Smeaton VK4BAA
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Welcome to this month's Contest Column.

Oceania Contests

A shameless plug for the Oceania contests as the 2012 Oceania contests are almost upon us, with the first two weekends of October putting our area of the world on centre stage. Once again, clubs are able to enter teams and have a go at competing for the VKCC Club award, and VK entrants need to remember to include the name of their club when submitting a log.

The Australia Club plaque is awarded to the local club from Australia with the greatest number of member stations participating in the contest. In order for a club to be eligible there must be at least five logs submitted by member stations, with each log containing a minimum of 50 valid QSOs. This is not all that difficult to achieve and is a realistic target for club members to strive for. Why not form a team and get something to put into the club trophy cabinet?

Get on air and have some fun!

Yet more CQWW rule changes

Along with instituting a new five day log submission deadline, the CQ WW Contest Committee has included a specific rule change for the 2012 CQ WW DX Contests that seeks to crack down on post contest log changes.

13. Post-contest correcting of call signs by using any database, recordings or confirming QSO's is not allowed (Rule XII.2 always applies) reads the new language in the CQ rules.

The message there is very clear, that post-contest log clean-up by using outside aid - whether it is call sign databases or recordings of the contest - are now clearly considered against the rules.

Contest Calendar for October 2012 – December 2012

October	6/7	**Oceania DX Contest**	**SSB**
	13/14	**Oceania DX Contest**	**CW**
	20/21	Worked All Germany Contest	CW/SSB
	27/28	CQWW DX Contest	SSB
	27/28	ARRL International EME Competition	CW/SSB
	27/28	CQWW SWL Challenge	SSB
November	10/11	Japan International DX Contest	SSB
	10/11	Worked All Europe DX Contest	RTTY
	3/4	ARRL International EME Contest	All
	24/25	**Spring VHF/UHF Field Day**	**CW / SSB / FM**
	24/25	CQWW DX Contest	CW
	30	ARRL 160 m Contest	CW
December	1	RTTY Melee	RTTY
	8/9	ARRL 10 m Contest	CW/SSB
	21/22	OK DX RTTY Contest	RTTY
	Jan 2013	**Ross Hull Memorial VHF Contest (VHF/UHF)**	**CW / SSB / FM**

Note: Always check contest dates prior to the contest as they are often subject to change.

The reference to "Rule XII.2" is important as well, because that contains new language that could mean a variety of things to CQ WW competitors and their logs:

2. All sent and received exchanges are to be logged. In addition to the number exchange, the call sign sent by an entrant during a completed exchange, must be logged as sent by the entrant. All QSO exchanges must be logged upon QSO completion. The new language there includes the final two sentences: In addition to the number exchange, the call sign sent by an entrant during a completed exchange, must be logged as sent by the entrant and then All QSO exchanges must be logged upon QSO completion.

The release of the rules on the CQWW web site was not accompanied by any public explanation of the changes from the CQ WW Contest Committee, but this rule seems to indicate that the CQ WW Contest Committee is ready to use SDR recordings of the contest to check the ***transmitted*** signal of someone in contention for a top award, to see what has been sent in the exchange.

Other changes in the 2012 CQ WW rules are visible almost immediately, dealing with power, as the committee refined the language that warns about excessive power in your contest category:

You must not exceed the total output power limitation of your chosen category on any band. Total output power on any band at any time is measured at the output of the active amplifier(s), reads the new language, emphasizing the precise point where power is to be measured.

There is also new wording on multi-op efforts:

Multi-Operator Categories (all-band operation only): Any public QSO spotting help is allowed. Any number of operators is allowed. Total output power must not exceed 1500 watts on any band at any time.

From "Fair Play" to a Ban on Log "Massaging"

A year ago, the CQ WW Contest Committee rolled out a public relations campaign designed to publicly pressure contesters over the idea of post-contest log changes, often referred to as "log massaging," arguing it was against the spirit of true competition.

Your contest result is a measure of your contesting skill, argued CQ

WW Contest Committee member Doug Zwiebel KR2Q in a 2011 CQ WW webinar, where the CQ WW CC argued to contesters that changes to a log - with outside aid after a contest - is considered outside the bounds.

But in 2011, the CQ WW Contest Committee only called the use of post contest data sources "unsportsmanlike" - now there is a specific new rule meant to make entrants think twice about using the internet, a recording, or other sources to fix some mistakes in their log. Not much that the Committee can do about any checks taking place *during* the contest if sufficient resource is available – nor can they shut down LoTW, eQSL etc.

Many have been following this subject matter with amusement for some time now. I for instance, have come to realise that these debates, to the best of my recollection, have been around since I first got onto the various Net forum facilities in the early 1990s. The rules have changed to accommodate technology, in some cases maybe for the better and others maybe not. However the rules are what they are and are meant to be adhered to by all that want to participate. Given that, I find that most hams are an honourable breed and hold themselves in high stead and will follow the rules. There are those that inadvertently misread the rules or submit logs inappropriately by accident. I have done this myself, and got hold of the sponsor, discussed the issue and all was okay to submit again. There are also those who wilfully do not or cannot follow the rules, and those that don't I feel should be DQ'd after appropriate adjudication.

However, any rule change that cannot be effectively policed and monitored is a waste of time in my humble opinion. It'll be interesting to see how they propose to enforce it.

CQ to revamp schedule for contest results

In yet more news from the CQ camp, CQ magazine will embark on a major reorganization of its editorial content in order to publish contest results significantly sooner. On average, contest results will appear four months sooner than at present. The new schedule will be phased in over the course of 2013 and will be fully in place by 2014.

The schedule change has been made possible by the fact that the vast majority of contest entrants submit their logs online, as well as advancements in technology for log-checking, earlier log submission deadlines and advances in publishing technology.

RD Contest 2012

The first trial of the new RD rules took place recently, with excellent feedback from participants. Some horses were led to water but seemingly didn't take a drink, as the new manager Alan VK4SN publicised the revised rules widely and extensively. However, many participants reported progressive serial numbers being utilised and an on-air learning exercise was embarked upon to re-educate said participants when the response was that they had not actually read the new rules. I note, that the response was seldom "I had no idea that there *were* new rules for this contest"....

After Alan's extensive restructuring and dissemination, whatever hair follicles currently remaining on his head are possibly in for tearing out in utter frustration.

Another down side on the contest, were the usual creatures that thought that dropping a carrier onto a CQing station's frequency was a fun thing to do. Exactly what pleasure this gives the perpetrator – I'll never know. There were also some reports of multi-operator stations using separate logs for each operator – which caused no end of hassle with stations being called for a QSO before they were permitted to do so.

Andre VK3FASW played in the RD for the second year, finding a few more station improvements along the way. Andre bagged 100 QSOs with only 10 W of RF – a superb effort!

I've no doubt that a write-up is in the offing (if not elsewhere in this edition of *AR*) and it will be interesting to see the highest exchange number! One more variable in the exchange was that some clubs used the age of their club rather than the number of years that an operator had had his license - that made some participants think they were talking to someone over 90 years of age until it was explained. With in-excess of 100 logs having been submitted at the time of writing, Alan will have his work cut out as regards adjudication duties.

CQWW Committee scoring

Yet more news from CQ, in that a glitch in the software used to analyse logs submitted for the CQ World Wide DX Contest has resulted in errors in final scores for some participants in the 2011 CQWW DX SSB and CW competitions. These errors were discovered after the results of both competitions were sent to the printer, so some results published in the August and September issues of CQ will be incorrect. However, reportedly only one SSB certificate (out of approximately 1300) was affected by the error, and with the new, corrected, results, all affected stations' scores went up, not down. CW results were still being worked on as this is written, but a similarly small impact is suspected. According to the CQWW Contest Committee, "approximately one QSO in a thousand was marked as a bad call in error. The problem came about as part of a recent software upgrade, so no previous CQ contests are affected. It has now been fixed, so future contests also should not be affected. Hopefully.

Been a naughty boy or girl?

The CQ WW DX Contest Committee crackdown on rules violators has

snared several top operators, as five amateurs withdrew their entries after being asked about possible rule violations in the 2011 CQ WW SSB contest, including the defending SSB Assisted champ. The stations listed below withdrew their logs after they were contacted by the CQWWCC for violation of rule III.A. That 2011 rule says that for "all single operator categories, all band or single band, only one signal is allowed at any time."

The new rules for CQ WW allow a competitor to simply withdraw an entry, allowing them to avoid being officially sanctioned or disqualified for rules violations. The five logs that were "withdrawn" for CQ WW SSB 2011 were:

- ER4DX - operated by Serge Rebrov UT5UDX; he was the defending 2010 Assisted champ and had claimed the 3rd highest score in 2011.
- LZ8E - operated by Boyan Petkov LZ2BE; he had the 6th highest claimed score in Single Op Low Power worldwide.
- US1I - Roman Solop had the #2 world claimed score in 20 metre High Power.
- RC9O - Anatoly Polevik had the #17 world claimed score in Single Op High Power.
- RG3K - Igor Burykh had the #49 world claimed score in Single Op High Power.

The CQ WW Contest Committee did not issue any Red or Yellow cards for the 2011 SSB test. In 2010, no logs were announced as "withdrawn" - but the CQ WW Contest Committee did issue three Red Cards and two Yellow Cards for rule violations.

As for this year's post-contest log checks, the CQ CC paid special attention to SO2R entries, checking for multiple signals by single operators. It was reportedly discovered that several top scores did not have adequate protection against two signals at the same time. A single operator entrant can have only *one* signal on the air at *any* time. With the use of SDRs, the CQ WW CC can listen to the whole contest all the time, so violations are relatively easy to locate if/when present.

It makes me wonder how the results might've looked if this stance had been taken on the 2010 results, seeing as a 'champion' or two suddenly withdrew their entry in 2011!

All Asia SSB 2012

The bands seemed to be a little livelier for this one. This contest 'clashes' with the Region 1 Field Day in EU, but is often a good source of DX and prefixes.

Miles VK6MAB worked just over 400 stations (mainly on 10 m) for a claimed score of 122,000. Nice going Miles – especially with 100 W. Catherine VK4GH stayed on 40 m and grabbed 220 contacts. Steve VK3TDX worked just over 1000 Qs for a claimed score of a little over 517,000 points. Steve had originally intended to work 200 or so due to family commitments, but once Steve gets into the contesting chair there's no stopping him! Similarly, Ken VK4QH netted just over 1000Qs for a claimed score of around 533,000. Ken suffered from a bad back during the working week and into the weekend (well, at least that was his excuse for not coming to the VK4KW working bee!) but a few hours in the chair was obviously very productive in another way. Scott VK4CZ came onto the bands for a social bit of contesting and found 10 m open to EU so he worked a few of the Region 1 stations while he was there.

If you have any contest related material for inclusion within the column, topics that you would like covered or even some experiences and pictures you would like to share, then please feel free to get in touch via *vk4baa@wia.org.au*

See you on the bands.

73 de VK4BAA Phil Smeaton.

Silent Key

W.S. (Bill) Morrison VK7BM 1920 – 2012

It is with sadness that I report the passing of Bill Morrison VK7BM on Saturday, 7th July 2012, in his 92nd year. Bill passed away peacefully at his Lindisfarne home.

Bill's interest in radio and amateur radio commenced at an early age, when Bill joined commercial radio station 7HO as a teenager, straight from technical school in 1937. Bill remained with 7HO until 1941 when he joined up for military service, serving in northern Australia, Papua New Guinea and New Britain. Bill returned to 7HO after his war service and rose to the position of Chief Engineer.

In mid-1958 Bill was appointed Chief Engineer of Tasmanian Television Limited, the successful applicant for the Hobart Television Licence TVT6 and remained with the company as Chief Engineer, and in other senior management roles until his retirement in the 1980s.

Although Bill was not very active in recent years, with the exception of the war years he had held the call sign VK7BM continuously since the late 1930s. In later years Bill made a particular effort to be on the air for the Remembrance Day Contest, even if it meant stringing a G5RV across the courtyard of his retirement unit in Lindisfarne.

Bill's family was everything to him, and although he was a very private person who rarely spoke of himself, I know he will be sadly missed by the many people whose lives he touched.

Vale Bill VK7BM SK, RAOTC Member No 938.

Submitted by Winston Henry VK7WH.

DX-News & Views

Chris Chapman VK3QB and Luke Steele VK3HJ
vk3qb@wia.org.au & vk3hj@wia.org.au

August and September report

Propagation conditions improved again slightly, with some good openings mainly on the 20 m band. Solar activity has been fairly low, with the SFI taking a dive late in August, then rising again. The geomagnetic field has been quiet to unsettled for most of August, with some shortwave fade outs observed during the International Lighthouse weekend.

20 m has been solid into Europe on the long path, gradually later and later in the afternoons, but usually shutting down after sunset. The higher bands have shown some openings, but so far, are erratic and short. There has been some activity on 10 m during the day to North America and a little bit into Europe later in the afternoon, at times. 30 and 40 m proven to be quite reliable and always worth a look, particularly at sunrise.

A number of DXpeditions and IOTA activations took place during August, including RI0K Ratmanova I, 9M4SLL Spratly I, D64K Comoros I, VU7M Lakshadweep I, YW5B Isla de Blanquilla, V63PR Yap I, RI0FM Maneron I, and 5H3ME Tanzania. In September, NH8S Swains I, and 3D2C Conway Reef. It is interesting to note that nearly all the listed DXpedition activity is from islands.

Some Upcoming DX Operations

The following table summarises some of the DX activations that may be of interest to VK operators.

Date	Call	QSL via	Info
3-16 Oct	TT8TT	I2YSB	Chad, DXpedition. Exact dates TBC
1-5 Oct	3A/G0VJG	G4DFI	Monaco, HF, SSB
1-15 Oct	7Z7AB	7Z1CQ	Al Dhahrah Is AS-190 New
6-12 Oct	VK9XM	OH2YY	Christmas I, 40-10 m
8-17 Oct	CY0	OQRS, WA4DAN	Sable I, WA4DAN/CY0 and AA4VK/CY0
12 Oct – 1 Nov	V47JA	LotW	St Kitts & Nevis, W5JON, 160-6 m, SSB
15 Oct – 12 Dec	5X1NH	G3RWF	Uganda, G3RWF, 80-10 m, mainly CW, some digital & SSB
16-23 Oct	3B9SP	HB9ACA	Rodriguez Is, DXpedition
16-25 Oct	T30PY	OQRS, PY2PT	West Kiribati, Brazilian DXpedition
21 Oct – 4 Nov	S79	via home call direct	Seychelles, S79XX (IK5RUN), S79YY (I5OYY), S79LC (I5IHE), 80-10 m
23-29 Oct	KH8	JA2ZL	American Samoa, JA2ZL, 80-10 m
23-30 Oct	VP2MXU	G3NKC	Montserrat
26 Oct – 4 Nov	5V7TH	LotW	Togo, ON4CIT, 40-6 m
27-31 Oct	P29NI		PNG, Simberi Is, OC-099, then into November, Lihir, Buka and Manu Is.
10-22 Nov	PT0S	LotW	St Peter and St Paul Is
24 Nov – 10 Dec	5T0SP	LotW	Mauritania, Polish DXpedition, 160-10 m
28 Nov – 9 Dec	ZL9HR	EB7DX	Auckland & Campbell I, http://www.campbel2012.com/

3D2C **Conway Reef** will be active through to 5 October.

J28NC, **Djibouti**. Look out for Christian (F5BMF) who expects to stay in Djibouti for at least two years. He will be mainly on CW, with some SSB.

ZD9KX (TBC), **Gough I.** Gerard ZS6KX will be on Gough I, AF-030 for the next year. He has applied for the call ZD9KX, and awaits confirmation.

VK0JJJ **Mawson Base, Antarctica**. From January 2013, Craig VK6JJJ will be at Mawson Base, for a year. He plans operation from 160-6 m on SSB and Digital modes, and will be setting up a 6 m propagation beacon. Further information will be posted on QRZ.com.

TT8TT, **Chad**. Dates for this I2YSB Team expedition are still to be confirmed.

3A/G0VJG, **Monaco**. 1-5 October. Nobby will be on HF SSB with 100 watts, and a number of different antennas. He expects to spend quite a bit of time on air, without his XYL with him on this trip.

VK9XM, **Christmas Is**. 6-12 October. Pekka OH2YY will be active from 40-10 m. He is a very effective one-man operation, and has been active recently from Nauru, Cocos-Keeling Is, Christmas Is, and Spratly Is.

CY0, **Sable Is**. 8-17 October. Murray WA4DAN and Ron AA4VK plan to activate Sable Island. They have received approvals from the authorities, but as always, the expedition is subject to safe landing conditions on the beach runway. Previous attempts in December 2010 and December 2011 had to be abandoned due to unsafe runway conditions and aircraft problems.

5X1NH **Uganda**. 15 October – 12 December. Nick G3RWF is all set for two months in Uganda.

He'll be participating in the CQ WW CW DX Contest and the ARRL 10 Meter Contest. Nick will be working pro bono at Moon University in Fort Portal. QRV in his spare time with his K3 and wire antennas, and Moxon for 10/15 m.

S79 **Seychelles**. 21 October – 4 November. Three Italian operators will be conducting a holiday-style operation on Praslin I, AF-024. 80-10 m, CW, SSB, and RTTY.

KH8 **American Samoa**. 23-29 October. Anci JA2ZL will be active from Pago Pago, 80-10 m using CW, SSB and RTTY, with a Hex Beam and verticals.

5V7TH **Togo**. 26 October – 4 November. Wim ON4CIT will be operating on 40-6 m, CW, SSB and RTTY. He'll be using an IC-7000, 1K-FA, Hex Beam and verticals. Wim requests SSB callers use the International Phonetic Alphabet. This is a good principle, as one often hears other phonetics used, resulting in confusion and time wasted.

5T0SP, **Mauritania**. 24 November – 10 December. A group of Polish operators will be activating this Western African country from 160-6 m. Joining them will be the country's only radio amateur, Jean 5T0JL, who helped organise the licence for the expedition. If you haven't worked Jean already, this will be your best chance for putting this fairly rare country in the log.

ZL9HR **Campbell Is**. 28 November – 9 December. Planning is well underway for this major expedition. The landing permit and licence is in hand, and the logistics of this large and complex operation are being carefully arranged. Please consider a contribution to support the considerable costs of this expedition, then look forward to logging them on many bands and modes. Visit the website for updated information. *http://www.campbell2012.com/*

Call for topics and Q&A

In our previous column we asked for your feedback, requests and ideas. What topics would you like to see covered in this column each month. We will, of course, continue to bring news of interesting DX, upcoming DXpeditions and propagation observations. However, if you are new to DXing and would like to see some more information a particular topic then please drop either of us an email. Equally so, you may just have a simple (or not so simple) question. We can't promise we'll have all the answers (maybe not even the correct one!) but we'll do our best.

We look forward to receiving your emails with news of DX from your QTH as well as any questions or suggestions you may have.

Until next month... good DX.

Luke VK3HJ and Chris VK3QB

Profile: Luke Steele VK3HJ

First licenced in 1981, while studying to be an Electronics Technician, at the Army Apprentices School, Balcombe, Vic. Active on and off over the years, until establishing a station at Benloch, near Lancefield in central Victoria. Then, discovering he could actually work DX, knocked over his first DXCC in 2009, at the very bottom of the sunspot cycle. At time of writing has 302 DXCC entities "in the bag" and is hungry for more. All antennas are home-made, and favourite mode is CW. Luke operated in DXpeditions to Lord Howe I - 2009, and Vanuatu – 2010, 2011 and 2012, and Cape Moreton Lighthouse for ILLW 2012.

Having left the Telecommunications industry at the end of 1999, he has worked with horses since, and now makes a living in Hoof Care.

Profile: Chris Chapman VK3QB

In 1984, Chris' High School Science Teacher, Tom VK3BMF asked him to write a computer logging program (on the old Commodore VIC-20) and assist with the Remembrance Day Contest. He was fascinated and intrigued by the FT-101E and the antennas - the magic of wireless! An intense study period lead to being licensed as VK3VCC later that year. He was particularly active in those early days on 80, 15 and 10 metres and has many fond memories of working DX well into the wee hours when he should have been studying. Having two teachers who were radio amateurs made for some interesting debates regarding the merits of homework instead of working DX – especially during the last year of high school where he upgraded to the unrestricted licence.

Over the years he has maintained his interest in DXing, contests and portable operation. In recent times he has been on a few DXpeditons (Lord Howe Island, Vanuatu and Fiji) and thoroughly enjoys being on the pointy end of the pile-up. However, only recently has he qualified for his DXCC Award and is now attacking the award with QRP, whilst continuing to plug away adding new ones as they appear.

Chris has worked in the IT industry for over 20 years, here in Australia and New Zealand, as well as a four-year stint in Sweden, where he held the call SM0YKS.

VK7news

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Repeater news

Firstly thanks to Paul VK5BX for answering my question posed in August *AR* magazine about whether the Ben Lomond repeater VK7RBH at 1,570 metres was the highest repeater in VK. The repeater VK1RGI on Mt Ginini in the ACT is believed to be the highest amateur repeater installation in VK at 1,762 metres. Thanks Paul for the info.

The D-STAR Repeater VK7RRR is now running in full duplex mode, so local QSOs are possible. The repeater is also connected to DCS014 (Module B), the new Australian x-Net reflector, located in Sydney. There is a D-STAR net, hosted by the Gold Coast Amateur Radio Society (GCARS), held on DCS014B every Wednesday evening at 19:30 AEST. Details of the group and information about the repeater can be found at *http://www.vk7rrr.info* Thanks to Don VK7YXX for that info.

A big thank you to Brian VK7RR and XYL Sue VK7KSU who, while visiting VK7 from their new home in VK4 installed the recently repaired VK7RIN repeater; thanks to Joe VK7JG and Tony VK7YBG for the repaired power supply. Four inches of snow and a howling gale did not stop Brian and Sue from their mission...HIHI.

Peter VK7PD, Dave VK7DD and Joe VK7JG reinstalled the upgraded two metre beacon along with the six metre beacon on VK7RAE at Don Heads in NW Tasmania. From all observations, the two metre beacon is at least 3 dB better than before. The 28 MHz beacon aerial was installed but unfortunately, the radio developed an intermittent fault so stay tuned on that re-installation. Thanks to Joe and his team for their tireless efforts in keeping repeaters and beacons working around Tasmania.

The Table Cape repeater VK7RAC APRS digipeater received some much needed attention from Dion VK7DB and David VK7DC. It was found that a recently installed 3 kW FM transmitter was causing deafness in the APRS receiver. Installation of a single band pass cavity filter by Dion and subsequent tuning resulted in the full receiver sensitivity being recovered. David VK7DC installed a triplexer to the radio end of the repeater coax in preparation for the installation of the two and six metre repeaters. David also fitted lightening arrestors and battery backup for the new repeaters.

Cradle Coast Amateur Radio Club

Thanks to David VK7EX for the following report. The new DATV Repeater was demonstrated at a recent CCARC meeting by Winston VK7EM, Dion VK7DB and Dave VK7DC and by all accounts the picture and audio quality was excellent. CCARC are now on Facebook so why not have a look and leave a comment or three. At the time of writing this column the planning was well advanced for CCARC to be at the Burnie show in October to show off this great hobby of amateur radio to everyone. A huge thank you to Rick VK7FRIK, who donated a fully enclosed tandem trailer for use as a mobile communications centre on field events or for emergency work by CCARC.

Northern Tasmania Amateur Radio Club

NTARC's August meeting was a social dinner at the Queen's Head in Perth. This was a great night of excellent food, great service and company. The October meeting of NTARC will be the annual pilgrimage to Mt Barrow. The November meeting is a talk from David Murray from Centrelink, who will bring the attendees up to speed on current changes to benefits, etc and December's meeting is the Christmas BBQ and Slippery Trout award at Myrtle Park. The 55th Jamboree On The Air will take place on 20 and 21 October 2012 with NTARC's effort focused on Carnacoo camp site at Paper Beach, as part of a northern districts camp.

North West Tasmanian Amateur TV Group (NWT-ATVG)

The August meeting of NWT-ATVG was well attended with some old and new faces. The main order of business was the project to improve the coverage of the VK7RTV repeater on the NW Coast. NWT-ATVG will again be helping out at Paton Park Scout Camp for JOTA 2012.

Radio and Electronics Association of Southern Tasmania

REAST's presentation for August was something a little different and definitely not something you would try at home! Mike Harris, formerly VK7ACQ, took the audience through the manufacture of elemental sodium using a Castner Cell.

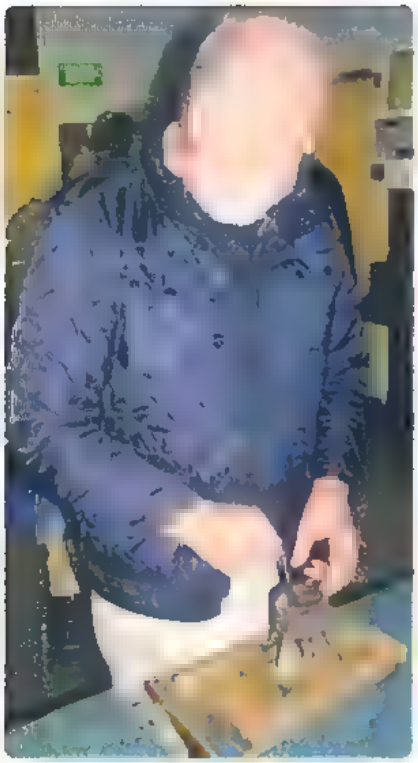

Photo 1: Mike Harris demonstrating the Castner Cell. Photo courtesy of VK7TW.

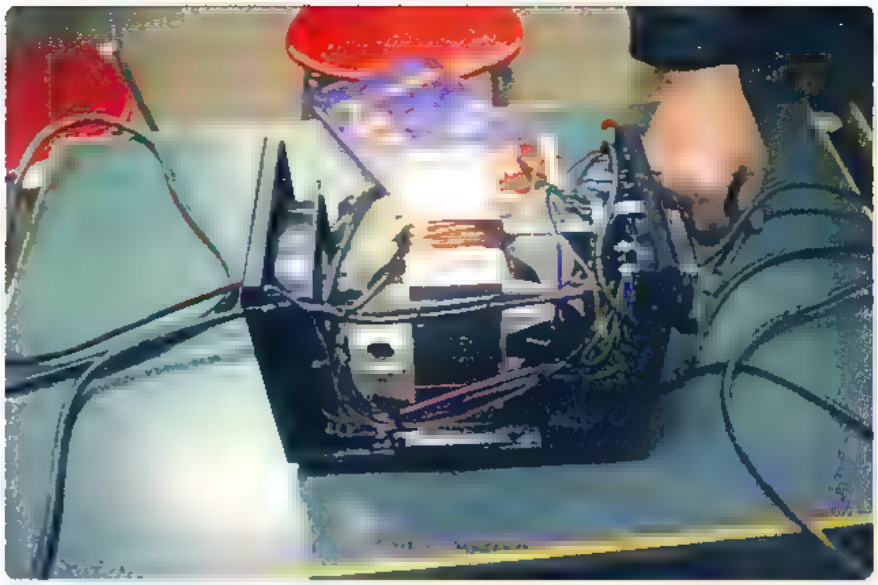

Photo 2: The modified arc welder for electrolysis of sodium hydroxide into sodium. Photo courtesy of VK7TW.

Mike took us through the history of manufacturing sodium and the Castner cell he built for the electrolysis of molten sodium hydroxide using a modified arc welder. In true Mythbusters style the presentation ended with a bang where Mike donned appropriate protective equipment and dropped 0.5 g of sodium into a bucket of water. The sodium skimmed the top of the water, burst into flames and then exploded with a loud pop. This all took place outside via camera link to the audience inside the building. A great big thank you to Mike for sharing his experience (and sodium) with us.

The REAST club station VK7OTC was put to air for the 24 hours of the Remembrance Day contest and a big thank you to all who participated and helped during the weekend especially Warren VK7FEET who did the all-nighter with the author. The callsign VK7OTC got many comments and allowed us to let people know about the club callsign and that we were operating from the 100 year old Marine Wireless Station (VIH) on top of the Queen's Domain in Hobart which was run by the Overseas Telecommunications Commission (OTC) until it was shut down in 1992, hence the callsign.

The DATV Experimenter's group also participated in the second world-wide DATV QSO party and showcased the DATV studio on the Queen's Domain via a Skype connection to Peter Cossins VK3BFG who was Master of Ceremonies. The video and audio then went out on VK3RTV and was streamed to the world via the batc.tv service. Thanks to Peter for allowing us to participate.

Over to you

Fatal foil

Hi Peter,

I've just read the article called "Fatal foil" in *AR* September 2012. I could not sit back and not send this email.

The article doesn't indicate if a Safety Switch was fitted to the house. If the foil was only connected to the Active (red) line, and the Neutral (black) line wasn't making contact to the staple, then the return current would have to have been through the body to an earth situation in the garage. A Safety Switch also known as an Earth Leakage Circuit Breaker or Residual Current Device (RCD) measures the currents in the Active and Neutral lines. If the currents in the Active and Neutral wires are not the same, then the current that is in the Active line must be leaking through to Earth (ground) and not back through the Neutral wire. Whenever a current unbalance is detected, the RCD trips and cuts off the supply and possibly saves a life. I'm surprised that the coroner didn't indicate that a RCD device if fitted may have helped.

We all spend $500.00 and more on our amateur radio toys to have fun. But it would only cost around this much to ensure that a RCD is installed in our house. A RCD may help our family and ourselves to stay alive and for us to enjoy our radio toys. We all take the tops off our radios to play and adjust them; having a RCD may save our life. Of course we need to also remember that some radios produce high voltages and even if a RCD device is installed it may not help us. We need to be careful at all times.

Best regards,

Roderick Wall VK3YC.

See also item on page 60.

VK3news Amateur Radio Victoria

Jim Linton VK3PC
e *arv@amateurradio.com.au*
w *www.amateurradio.com.au*

The ILLW was successful

Although most of the usual people were not available, the activation by VK3WI of the Time Ball Tower at Williamstown went ahead for the International Lighthouse and Lightship Weekend (ILLW). In charge was Ian Downie VK3XID, familiar with the portable station having been there at the beginning some nine years ago, and having taken part in activations at the Point Gellibrand Coastal Heritage Park since then.

The homebrew multiband antenna was a centre fed and loaded dipole, tied to the adjacent flag pole and hung from the of the Time Ball tower at the feed point with its 4:1 balun, plus attachment to a PVC pipe at the boundary fence. A Yaesu ATU borrowed from Brian Richardson VK3CCR achieved an acceptable SWR on all HF bands in use. Forgone this time due to fewer operators and space was VHF and UHF operation.

On the Friday Ian Downie VK3XID, armed with a Parks Victoria permit, and Steve Barr VK3MEG located the antenna. The operation began at 8 am local time on Saturday. There was a howling wind, horizontal rain and temperatures around eight degrees with a wind chill factor of five degrees.

The operators sheltering in the bluestone tower on the first day were Ian VK3XID, Brian Hallam VK3DBH and joined later by Steve VK3MEG. At 4 pm the operation ended, mainly due to the cold weather.

After announcing our presence to the Tourist Information Centre at Saturday lunchtime, a steady stream of visitors arrived seeking information on the purpose and function of the Time Ball system and the involvement of radio amateurs to highlight the need to preserve the historic monument. Ian VK3XID met and greeted the visitors and was very knowledgeable about the structure's history plus was able to explain the purpose of the weekend.

Arriving on Sunday was Jim Linton VK3PC, when the weather was far better with at least some sun. VK3WI started again and made a few more contacts to a total of 132 including 33 Lighthouses from VK and one NZ. The DX contact was with UU2JQ in the Caribbean.

The most productive band was 40 metres, although Peter Cossins VK3BFG worked a few on 20 metres but couldn't compete with an IC-706MKIIG and auto tuner into a helical whip mounted on a microphone stand. Not with only a few watts out and having to deal with cross modulation from the multi-band dipole plus a local high noise level. All things considered those involved had a great weekend and packed up for another year.

Photo 1: Peter VK3BFG working a few on 20 for the ILLW.

KRNPA update

The annual VK3 National Parks activation weekend will take place across three days from Friday 16 to Sunday 18 November.

Award Manager Tony Hambling VK3VTH said since the revival of the Keith Roget Memorial National Parks Award he has issued ten certificates so far for 15 or more parks, and other claims were in the pipeline.

Of particular note is Peter Fraser VK3ZPF who has completed the outstanding feat of achieving all 45 national parks, which includes an impressive run of them recently.

For hunters of the KRMNPA the weekend in November is the time to listen for activations from at least Heathcote-Graytown, Barmah, Gunbower, Terrick Terrick, Kinglake and St Arnaud.

If you intend to activate a park at this time have it included on a Master List that will be posted on the Amateur Radio Victoria website,

which also contains the KRMNPA rules and endorsements.

Website improvements

An overhaul of all the content and look of the website is nearly completed. After many hours of voluntary work the job is almost complete and all visitors should begin to notice a marked difference. Apart from the look and feel aspects of the site, a lot of attention has been paid to a new function that allows members of Amateur Radio Victoria registered with their email address to be notified online when their renewal is due. Those members can then choose to pay the renewal amount by a credit card using PayPal, or by cheque in the post.

All members will be moved to this new database system. Those without their current email address which amounts to about 60, will continue to be handled by the less efficient manual processes.

Soon there will be an on-line store from which users will be able to purchase the Callbook, Logbooks and the Foundation Licence manual.

We thank our Internet Website Development Officer Gary Furr VK3FX and the Treasurer Ross Pittard VK3CE, fully supported by the Council, for the introduction of the new features.

Over to you

More feedback on 'Fatal foil'

I shuddered when I read this article by Steve Mahony VK5AIM.

The details relating to the installation indicate numerous items of non- compliance, resulting in a horrific cost!

The long and the short of it is that if an RCD (Safety Switch) had been fitted as required, the boy would still be alive.

Various specifics quoted as requirements are not correct.

The following sections are of concern:

"An Electrical Contractor friend agreed to fit another power circuit along with extra lights. The boys could do the hard climbing work and he would do the final connections."

Electrical worker licensing in Australia is done by each state. In Victoria, any electrical work must be carried out by a licensed worker; and, where applicable supervised by an A grade license holder. This means that even work experience kids cannot do actual electrical installation work.

In South Australia, to quote SA NECA.

Electrical work can only be carried out by a person with an electrical licence. It is an offence under South Australian legislation to ask a person to perform electrical work without the correct licence. Electrical contractors must be aware of these restrictions and implement measures to ensure electrical workers only perform work within the scope of their licence and are competent to do those tasks.

"When the power cable had been clipped along the side of the ceiling woodwork (joist), as it neared the outside wall, it had been allowed to run level with the lower edge of the wooden beam – not up about one to two cm from its lower edge as required."

Note also the reference to TNS cable should be TPS (Thermo Plastic Sheath)

All electrical works in Australia is required to be completed to the current Australian Standard (AS/NZS 3000:2007). The following regulations have not been followed.

3.9.4.1 *General*

Wiring systems installed in positions where they may reasonably be expected to be subject to mechanical damage shall be adequately protected in accordance with Clause 3.3.2.6 and applicable requirements of Clauses 3.9.4.2 to 3.9.4.4.

3.9.4.2 *Wiring systems near building surfaces.*

Wiring systems shall be protected by one of the methods outlined in Clause 3.9.4.4 if they are

(a) concealed within 50 mm from the surface of a wall, floor, ceiling or roof; and

(b) located more than 150 mm from the internal wall to wall or wall to ceiling corners" and

(c) fixed in position by either fasteners or passing through an opening in a structural member.

Exception: These requirements need not apply to wiring systems that can move freely to a point not less than 50mm from the surface in the event of a nail or screw penetrating the cavity at the location of the wiring system.

3.9.4.4 *Protection methods*

(c) protected by an RCD with a maximum rated operating residual current of 30 mA in lieu of mechanical protection.

2.6.3.4 *Alterations, additions and repairs*

Socket-outlets that are added to an existing circuit shall be protected by an RCD

Note that 2.6.3 requires that all new domestic light and power circuits be RCD protected. Other installation types etc. are also applicable.

8.3.3 *Mandatory tests*

(a) Continuity of earthing system….

(b) Insulation Resistance… Would have most probably detected the damaged cable.

(c) Polarity…

(d) Correct circuit connection…

(e) Verification of impedance required for automatic disconnection of supply (earth fault loop impedance)…

(f) Operation of RCDs …

8.3.6 *Insulation resistance*

8.3.6.1 *General*

An insulation resistance test is necessary to ensure that the insulation resistance between all live conductors and earth or, as the case may be, all live parts and the earth is adequate to ensure the integrity of the installation. This is to prevent:

(a) electric shock hazards from inadvertent contact and

(b) fire hazards from short circuits; and

(c) equipment damage.

In closing, whilst not a fan of foil insulation, it is the defective electrical installation that has resulted in the death.

Tony Middleditch VK3CAT

REC 7359

Remembrance Day Contest results

The 2012 RD Contest Results can be found on the WIA website:

http://www.wia.org.au/members/contests/rdcontest/

Look for a full report in the November issue.

VK3news

Tony Collis VK3JGC

Geelong Amateur Radio Club - The GARC

Photo 1: A view of the GARC Lounge.

A review of the GARC in the contest arena

Photo 1 is a view of the GARC lounge, showing some of the awards won by club members over the last couple of decades.

Within its membership the GARC has several interest groups and individuals that specialise in the UHF and Microwave field and figure prominently in all the contests that they participate in each year. They are:

- The established ***Lara UHF and Microwave Experimenters Group*** (LUMEG), which comprises Chas VK3PY, David VK3QM and Charlie VK3NX.
- The ***Team GARC VK3ALB/p,*** comprising Lou VK3ALB, Jenni VKFJEN, Michael VK3FMIC, Nik VK3BA and Peter VK3APW.
- Ken VK3AKK aka VK3NW.

For the wider Australian amateur radio community that view the numerous contest tables published in the *AR* magazine, particularly those that focus on the UHF and microwave activities, there is no correlation that can be readily drawn between the results and the clubs that the individual competitors are members of, with the possible exception of the GARC VK3ALB/p team.

To put this into some sort of perspective then, of the circa 150 amateur radio clubs registered with the WIA, that span VK1 to VK8, and then referring to the Grid Square contest in June of this year, members from the Geelong Amateur Radio Club took the top spot in ten of the nineteen bands that they participated in and second place in three others. These results were:

Charlie VK3NX topped the list in eight of those bands:
First in the 2.4 GHz EME, 3.4 GHz EME , 5.7 GHz terrestrial, 5.7 GHz EME and 10 GHz EME, joint first in the 3.4 GHz terrestrial with VK3QM, joint first in the 24 GHz terrestrial with VK3QM and VK3AKK, joint first in the 47 GHz terrestrial with VK3QM, second in the 144 MHz terrestrial and joint second in the 2.4 GHz terrestrial with VK3QM.

Chas VK3PY topped the list:
First in the 2.4 GHz terrestrial band, joint first in the 1296 MHz terrestrial with VK3QM and
second in the 432 MHz terrestrial.

David VK3QM topped the list:
Joint first place in the 1296 MHz terrestrial with VK3PY, joint first place in the 3.4 GHz terrestrial with VK3NX, joint first place in the 47 GHz terrestrial with VK3AKK and VK3NX, joint first place in the 24 GHz terrestrial with VK3AKK and VK3NX, second place in the 5.7 GHz terrestrial and joint second place in the 2.4 GHz Terrestrial with VK3NX.

Team GARC VK3ALB/p managed a respectable placing of 17th in the 1296 MHz terrestrial, 6th in the 2.4 GHz terrestrial, 7th in the 5.7 GHz terrestrial and 10th in the 10 GHz terrestrial.

Ken VK3AKK jointly topped the list in the 24 GHz terrestrial band with VK3NX and VK3PY.

Photo 2: Charlie VK3NX.

Hamads

WANTED - NATIONAL

Copies of *Australian CQ* magazine.

The WIA Archive is seeking early copies of the late 1920s Australian CQ for copying and/or adding to the WIA Archive's shelves.

This magazine was published by the NSW Division of The Australian Radio Transmitters League, a group which was initially formed in 1927 in Queensland and grew quite large in NSW. Later it established itself to some extent in most Australian States. The magazine possibly ceased publication in late 1929 when ARTL members in NSW re-united with the WIA. The WIA Archive holds only one complete copy and one part copy of this magazine. In addition, a small number of copies are held by ARNSW and the Kurrajong Radio Museum. Collectively, we wish to build up the issues extant.

The format was fourteen printed pages stapled; each page approximately 150 mm wide x 220 mm height. A coloured cover was included although the colour seems to have changed with each year of publication.

Please contact Peter VK3RV via email *vk3rv@wia.org.au* or c/o the National Office in Bayswater if you can help us locate this important part of our history.

FOR SALE - VIC

I would rather give it away than dump it, so this is FREE. National Electronic organ. Top G# working but others are not working. Has a 50 W (peak) solid state amplifier, 1 x 25 cm speaker, 2 x 20 cm speakers, 1 x 2.8 cm speaker, 73 IC's, 254 transistors (including 11 Fets), 408 diodes. Also plenty of useful parts if you don't want to repair it. Pick up from Cohuna.

Contact Norm VK3JAL, phone 03 5456 3122.

Kenwood two metre FM TX, TR-7950, S/N 4070886. Unused, and in original package. $300.

AWA RT80 TX, model IM82002, S/N 203733, 148-174 MHz, complete with control unit. Unused, and in original packaging, $200.

Philips (TCA) TX, FM1677C/25, S/N 7626, complete with mounting hardware. Suitable for conversion to ham band, $100.

VK Powermaster power supply, 13.8 V, 20 A, $150.

Contact Bill Adams VK3ZWO, QTHR or at *waadams@dodo.com.au*

I have for sale one Henry 1kd5 linear amplifier. Included is lots of information on the unit, plus the operating and maintenance manual. Also included is a spare '3-500Z' and spare tuning charts and information.

I have never used this amplifier since I purchased it almost a year ago, but I always turned it on and let it run for an hour or so each week to keep the tube in good shape. This is a very heavy unit, thus pickup would be advised; however, you pay for the post if required. The unit looks clean for its age.

Asking price is $550.00 with a spare 3-500Z tube and all paper work.

Contact Cliff VK3CB, phone 03 5346 1534

WANTED - VIC

Handbook or copy of owner's manual for an Icom two metre TX, model IC-02AT.

Any information on an Alinco two metre linear amplifier.

A Citizen word processor, model CBM-10WP, working or not, but the LCD screen must be complete and not damaged.

A Voca-Phone answering machine, model 3200.

Call Brewster VK3YBW on 03 9527 2661 after 6.00 pm; if no answer leave a message.

FOR SALE - NSW

FT-1000MP, and FL-7000 amplifier, $3,500.00.

Contact David VK2AYD on 02 6585 2647 or on *dvdplly@midcoast.com.au*

WANTED - QLD

Kenwood two metre TX/RX, model TR-711. Complete with tone board. Please advise price, condition and relevant information.

Gwen VK4CB QTHR, on phone/fax 07 3202 7137.

WANTED - ACT

A printer compatible with Tono and/or Telereader series. Or information about same to assist in a purchase.

Contact Fred Ryan VK1RY QTHR or on phone 02 6247 9886, or by email to *fwnryan@tpg.com.au*

FOR SALE - SA

ESR meter parts – Complete parts kit, $69.95 plus postage. Order on-line from Aztronics Pty Ltd, 170 Sturt St, Adelaide, 5000. Phone 08 8212 6212 or at *www.aztronics.com.au*

PCB only, $10.00 plus postage. Order on line from VK5JST,

www.users.on.net/~endsodds

The VK5JST Antenna Analyser kits are available through the Adelaide Hills Amateur Radio Society.

Get in early as stock goes quickly at this time of the year. Order via website *www.ahars.com.au* or contact AHARS, PO Box 401, Blackwood SA, 5051.

WANTED - SA

Front protection cover for a WW2 3B/3BZ receiver.

Contact Malcolm Haskard VK5BA, email *mhaskard@chariot.net.au* or on 08 8280 7192.

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AR is a forum for WIA members' amateur radio experiments, experiences, opinions and news.

Your contribution and feedback is welcomed.

Guidelines for contributors can be found in the *AR* section of the WIA website, at *http://www.wia.org.au/members/armag/contributing/*

Email the Editor:
editor@wia.org.au

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Pictures From Our Past

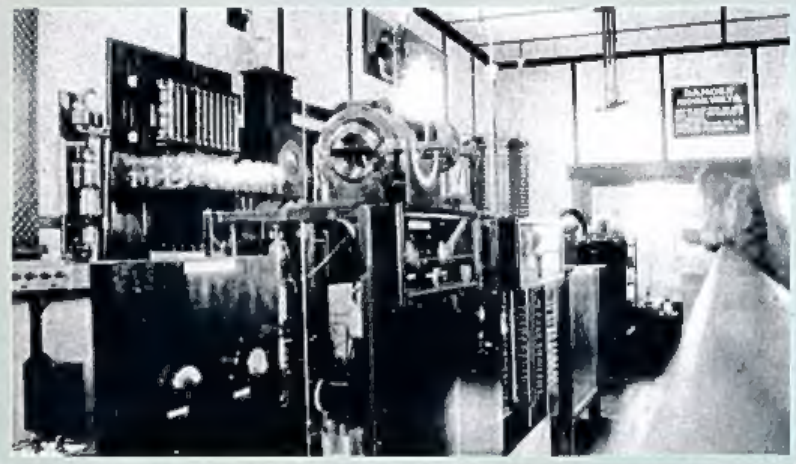
Gentleman operator VK7CW, C.A. Walsh of Hobart c1934 - all male amateurs are gentlemen - aren't they?

The following photographs were taken at about the same time, indeed all may have been "snapped" at the time of the WIA Convention in Hobart during January 1935.

We would like to know the following:

Was *Medhurst's Electrical* owned or operated by "Pop" Medhurst (XFM and XZD) who communicated with HMS St. George during the Duke and Duchess of York's visit for the Australian Federation celebrations in 1901?

Which building housed the Institute rooms?



Appears to be a low frequency transmitting station, possibly VIH Hobart.

Photo is endorsed "Outside Institute rooms before leaving" It was taken during the WIA Federal Convention in Hobart, January 1935.

Any information about these photographs or events is of interest to us.

Please contact the WIA Historian, Peter VK3RV on email *vk3rv@wia.org.au* or via the WIA Office in Bayswater.

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